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G.N.R.(I.) Closure Imminent ?

THE latest move in the long-drawn out troubles of the Great Northern Railway of Ireland is the issue of a forthright statement by the board appended to a notice convening an extraordinary meeting in Belfast on December 8. The meeting will consider the financial position of the company and examine any Government proposals relating to it, pass a resolution that the company cannot carry on business, and request the directors to take the necessary steps to cease operations as soon as legally possible. The statement succinctly summarises the reasons why the company has almost reached the end of its cash resources. All internal economies have been effected which are possible without losing more in receipts than is saved by reduction in expenditure. To conserve cash by lowering standards would result in unemployment and services so deteriorated that the public would no longer travel. The "stockholders have no incentive to watch their undertaking decline to its end in shabbiness and poverty. . . ." Economies by co-ordination might eventually improve the company's position, but their effect would be too small and come too late. The statement ends with an eleventh hour plea for fair treatment of a concern which "is still, by informed report, intrinsically the soundest and most progressive element in Irish public transport." Reduction of passenger services would not help. As an example, if there were only one train daily each way on the northern part of the railway, £250,000 a year would be saved in expenditure but £900,000 would be lost in receipts. Since 1947 the company has bought 15 new locomotives at a cost of £272,000, and diesel trains at a cost exceeding £300,000; these purchases were commended in the Milne Report of 1948, which like the 1946 White Paper has not been implemented as regards the Great Northern. Meanwhile, Mr. Liam Cosgrave, acting for the Minister for Industry & Commerce of the Irish Republic, is expected to continue the discussions begun in Dublin on November 16 on the future of the G.N.R.(I.). At the Dublin meeting it is understood that Mr. Cosgrave told the Northern Ireland Minister for Commerce that the Republic would deprecate partitioning of the railway. The Northern Ireland Minister's view was that the problem of finance was too much for his Government, and that the co-ordination that it had suggested should at least be tried.

Regional Transport Boundaries

TWELVE different ways of dividing England and Wales for as many administrative purposes, including three different regional organisations for the (then) three forms of nationalised transport, were contrasted in *The Railway Gazette* issue of November 11, 1949; it was moreover pointed out that the proposed road passenger transport Area Schemes did not coincide territorially with anything else. The adjustments therefore made last month, and described in our last week's issue, in certain divisional and district boundaries of the Road Haulage Executive, which bring the boundaries of road into closer conformity with those of railway districts, are a welcome simplification. They are also a step towards that co-ordinated regional organisation, embracing all forms of nationalised transport —(rail and road at least)—which must eventually result from the policy of the British Transport Commission. Railways that have grown up from the old company lines, with their long-defined traffic trends, obviously are harder to re-organise on a territorial basis than is any sort of road transport. But the adjustments earlier this year in British Railways Regional boundaries, though with some reservations regarding the operating, against the "static" sphere, show what can be done, and progressive standardisation in operating procedure is making territorial adjustments between the Regions easier.

British Transport Commission Statistics

THE analysis, given in the tenth four-weekly period of B.T.C. statistics, of British Railways passenger-journeys during the peak month of August, shows that cheap-ticket journeys exceeded those of August, 1949, by 15 per cent., and formed 28 per cent. of all journeys. They were the only category not to show a decline; season-ticket (22 per cent. of the total) and monthly-return (20 per cent.) journeys fell by some 9 and 5 per cent. respectively. How far cheap ticket facilities have retrieved traffic from the road (or created it) and how far they are economically sound is problematical. Second-class (*i.e.*, Continental boat train) rail journeys in August were 15 per cent. down on last year; for the roughly corresponding four-weekly period ended September 10, B.T.C. ship (which include Irish and Channel Islands services) passenger receipts fell by some 10 per cent. against 1949, whereas ship merchandise receipts rose by 5 per cent. This may reflect the heavy motorcar traffic to the Continent. The 25 per cent. rise in British Railways coal traffic receipts during Period 10 over last year, may be the result largely of efforts to build up winter stocks, combined with reduced exports.

The Pullman Car Company

THE report for the year ended September 30, 1950, of the Pullman Car Co. Ltd. shows an increase in trading profit of £171,174 against £165,956 last year. The net profit amounting to £61,819 (£68,832) is reduced, as the result in the main of non-recurring items and the de-rationing of petrol, which adversely affected holiday traffic. The profit added to the carry-forward of £55,749 amounts to £117,568, from which an interim dividend of 5 per cent. on the "A" and "B" shares was distributed in August last, and the directors recommend a final dividend of 7½ per cent., making

12½ per cent. for the year, as for the preceding year. After providing for this distribution there will be a carry-forward of £92,686 (£55,749) subject to the recommendation of the issue of one new "A" ordinary share for every five shares held by the "A" ordinary shareholders, and one new "B" ordinary share for every five shares held by the "B" ordinary shareholders. The new shares will be issued, credited as fully paid by way of capitalisation of part of the carry-forward. This will help to bring the issued capital more into line with the value of assets and their earning capacity. The report by Sir William Stanier, who valued the company's rolling-stock, is encouraging, with its praise of the rebuilding and reconstruction work done in the works at Brighton. A new "Golden Arrow" train is on order, and will be ready for traffic in February of next year, and three additional cars are being built at Brighton; the new train will be the company's contribution to the Festival of Britain, 1951.

Achievements of Victorian Railways

THE Victorian Railways can look back with pride on 1948-49 as a year in which, despite labour troubles, and shortages of coal and other essentials, they were able to carry more passengers and goods than ever before. This remarkable feat was made possible chiefly by operating improvements, combined with the co-operation of all grades of the staff. In an attractively-produced booklet, entitled "Our Busiest Year," the administration has set out some of the outstanding features of the railways' performance. They amply bear out the truth of the tribute which Mr. John Elliot, in his report on transport in Victoria paid to the soundness of the management of the Victorian Railways. Country passenger journeys alone totalled 11,594,640, five millions more than in 1938-39, showing that the policy of substituting diesel railcars for mixed steam trains on country branches, is paying dividends. Goods traffic was greater by nearly 3,000,000 tons than in 1938-39. The improvement of the Gippsland line to enable it to cope with the expected industrial expansion of that part of the State made substantial progress. If revenue has soared, so has expenditure, and an increase in charges was therefore unavoidable, but fares are still only about 12½ per cent. more than in 1938-39, compared with a rise of more than 55 per cent. in wages.

Overseas Railway Traffics

SINCE January 1 aggregate net revunue of the Canadian National Railways has risen to £15,085,000 and is now £11,268,000 higher than for the equivalent period of 1949. During October C.N.R. operating revenues were £2,947,000 higher at £18,063,000, and net revenue which amounted to £3,479,000 was more than double that for the same month last year. Aggregate net revenues for the current 43 weeks have risen by £13,286,000 to £150,250,000, whereas operating expenses have advanced by only £2,018,000 to £135,165,000. In the fortnight ended November 19 Antofagasta (Chili) & Bolivia receipts continued their recent improvement and now show a slight advance over traffic for the previous year. Receipts for the two weeks were £300 and £16,630 higher, at £84,930 and £87,740, respectively; on the aggregate, traffics were £3,075,124, as compared with £3,058,194 for 1949. Midland Railway of Western Australia traffics rose by £7,000 to £38,775 during September and at the end of 13 weeks were up by £29,381 at £110,856.

Overhead Line Maintenance Vehicles

THE adoption by British Railways of the overhead system of main-line electrification is resulting in the development of a number of different types of inspection and maintenance units. Last year, in our issue of October 7, we described a diesel-driven unit built by the L.M.R., comprising a two-car articulated vehicle, with a wide wagon, largely built with components of other vehicles, and in other pages this week we describe two units recently delivered to the Eastern Region by the Drewry Car Co. Ltd. The design of this unit, intended for the Liverpool Street-Shenfield and Manchester-Sheffield electrification schemes, was first initiated by the Chief Electrical Engineer of the former L.N.E.R., and, although designed for maximum speeds of from 5·6 to 23·1 m.p.h. in each direction of running, this vehicle can work at as low a speed as 1½ m.p.h. Special features in the design are the hydraulically operated tower housed in the well in the body of the vehicle, which can be raised to any convenient height, maximum working space for the inspection personnel, work benches fitted with vices and with racks for stores and tools, searchlights, and the compact grouping of controls making for ease of driving.

The Steel Rail

IT is perhaps a pity that the Sections of the recent International Railway Congress concerned with permanent way could not be asked to report specifically on the steel rail—an important subject: any addition to the reliability and wearing capacity of the standard rail, provided the gain so obtained is not nullified by extravagant increases in production costs, might ultimately make possible some substantial economies. Before the war, encouraging results had been obtained by the use of alloys and by heat treatments in prolonging rail life. This was the case in Great Britain, for example, with the Sandberg sorbitic treatment. It is unfortunate that the four expensive plants built in British steelworks to produce sorbitic rails on an exensive scale should have fallen into disuse, not because the rails failed to give the increased life sought, but through the development of an irregular surface hardening which proved troublesome in service as a result of the noise and vibration of rolling stock that it caused. This should suggest, however, research to cure the defect rather than abandonment of a useful process. Between the two wars a widely representative body called the International Rail Congress, devoted entirely to the steel rail, held four fruitful conventions at three-yearly intervals, the last being held at Düsseldorf in 1938, and its revival might well be advantageous.

Merits of a.c. Electrification for Main Lines

IN this issue Mr. S. A. Vincze develops some conclusions regarding electric traction systems which were summarised in our May 19 issue, when reference was made to a paper by Mr. J. C. Grant, New Zealand Government Railways. Further detailed examples are given of the association between long route-mileages with fairly low traffic densities and the use of alternating current at high voltages. The article points out some economically favourable characteristics of 50-cycle equipment and motive power. This system is still in its early trial stages as far as main-line types of locomotives are concerned, apart from the Kandó machines in Hungary, and the observation that a 50-cycle locomotive can be designed to operate on d.c. when necessary deserves to be qualified by recalling that some loss of efficiency in the latter case has been acknowledged in published descriptions of such equipment. So far, also, those French engineers who have been showing such interest in the system seem to contemplate its use for secondary main lines rather than the principal arteries of traffic. It is true that remarkable power outputs in the limits of the 4 ft. 8½ in. gauge are being achieved with low-frequency a.c., but the building of some 3,050 h.p. six-motor locomotives for the 3 ft. 6 in. gauge South African Railways shows the strides being made today in d.c. equipment.

Linear Energy Consumption

MR. VINCZE'S article referred to in the previous note is also interesting as an elaboration of a principle which found expression among electrical engineers in Kelvin's Law for determining the economic size of cables. His use of the linear energy consumption concept provides a considerable simplification of what can be a very involved problem; the extent of the simplification is realised when it is seen that no other

information is necessary for a first consideration of the system to be selected, than an estimate of the length of route, size and weight of train and frequency of service. Such complicating factors as peak and off-peak travel may be neglected. The method being simple in conception and application, has its weaknesses; in particular it is tied to a certain state of technical advancement and productive efficiency. The figures of kWh./route mile/year at which the various different systems of electrification are considered appropriate, are true only for a certain series of relations between costs of production, obsolescence and depreciation allowances, costs of labour, costs of power and so on. A change in these ratios due to a marked advance in, for instance, the technology of rectifiers or a.c. motors would necessitate a reconsideration of the entire series of figures which Mr. Vincze quotes.

Standard Passenger Coaches

THE first British Railways standard carriages, of which it is intended to build 1,189 during 1951, have been designed to incorporate the best feature of the former railway companies' practice and a number of the vehicles will be used in the Festival of Britain trains. The new coaches will have all-steel bodies carried on four-wheel bogies and will be equipped with buck-eye automatic couplers and Pullman-type gangways; they will be 63 ft. 6 in. long. A significant decision has been made in the provision for three-a-side seating in both third and first class corridor vehicles, especially as the coaches have been designed for working over all the principal main lines, where four-a-side compartments have previously predominated. The 1951 production programme will include both saloon and corridor coaches, and 40 restaurant and kitchen cars are to be built. The kitchen cars are stated to be the largest to run on British railways and it is intended to use both anthracite and electricity for cooking purposes. British Railways various carriage works will build 826 of the coaches and the remainder will be built by contractors. Further details of the new vehicles are given elsewhere in this issue.

Feeding London Transport Staff

IN opening the new London Transport Food Production Centre at Croydon, which is described and illustrated elsewhere in this issue, Lord Latham, Chairman of the London Transport Executive, said that he thought few undertakings in the country made so large a provision for staff canteens as London Transport. Their 180 canteens served 100,000 meals a day and employed 2,200 people. The cost of the food centre at Croydon, including conversion from a factory, and equipment, had been £135,000, and he felt certain that the money was well spent. Lord Latham referred to a mechanical feature of special interest. To bring in the meat from the unloading bays they had installed an overhead runway. This was the first elevated railway to be owned by London Transport and he hoped it would run to schedule! Specially-fitted vans distribute products to the 90 staff canteens which Croydon supplies, thereby relieving congestion in individual canteen kitchens. The centre is the latest stage in a progressive staff welfare policy and follows the Canteen Staff Training Centre for London Transport opened at Baker Street last year.

The Passing of the Ivatt Atlantics

AMID due ceremony, the last Ivatt Atlantic, No. 62822, originally G.N.R. No. 294 and built in 1905, has entered Doncaster for the last time, to be broken up. As we record elsewhere in this issue, it made its final run last Sunday, heading an "Ivatt Atlantic Special," crowded with enthusiasts, to Doncaster. No. 251, the first of the class of ninety-three large-boiler Atlantics with which Ivatt followed his twenty-two small-boiler Atlantics, is to be preserved in York Railway Museum and was on view in Doncaster Works in as near as possible pristine condition. Even so, the useful life of these gallant locomotives is not over, for at least six may be seen shorn of their glory but performing the necessary function of supplying steam for Doncaster works. Fortunately, the grace of an Ivatt-inspired, if not Ivatt-built, Atlantic in action can still be seen, for seven of the L.B.S.C.R. 4-4-2s built by Earle Marsh after he went to Brighton from Doncaster in 1905, and owing much to the Doncaster design, are still in service or conserved. On the East Coast route, the exploits of the G.N. Atlantics will long be remembered and it is most fitting that No. 60123, one of their no-less renowned successors, the Pacifics, has been named *H. A. Ivatt*, as a reminder of a great designer of a memorable class.

Locomotive Front Ends

INCREASED draught and self-regulation by turning the exhaust steam up the chimney was one of the major steps in locomotive design. This step was initiated over 125 years ago, but it is only within recent years that any close prediction of successful smokebox, blast pipe, chimney, back pressure, and draught conditions has been possible; and still the arrangement of a successful front end is more art than science. We have described many blast-pipe types, let alone smokebox assemblies, including cruciform, tipped, jumper, and multi-jet pipes, and special exhaust ensembles such as the Kylchap. Variations of the plain circular nozzle, such as the cruciform or star section types, always give rather better results than the plain top, because of the extra surface of exhaust steam they present; but Mr. E. G. Young, of Illinois University, U.S.A., has stated that of all the kinds he investigated the difference between worst and best was no more than 12 per cent. in the weight of gas moved per lb. of steam exhausted. The Kylchap exhaust not only divides the exhaust stream and adjusts its strength by varying the pipe-top area, but makes use of two gas-entrainment stages, and does not have the high frictional losses of the Lemaitre system.

The Railway Executive Wage Offer

HOW far the present labour troubles of British railways are the result of nationalisation is debatable. To some it seems that the companies, had they remained, would have been faced with much the same economic, and therefore labour, difficulties, as now; to others, nationalisation seems to bring disadvantages such as the much talked-of "impersonality" in staff relations. Whatever it has brought about, nationalisation of the railways was long and loudly demanded by the railwaymen's trade unions and parliamentary representatives. It was never asked for by those who now, as senior railway officers, have the duty of administering the nationalised system.

Nobody denies that by and large many grades of British railwaymen, compared with people in other walks of life, performing tasks of equal responsibility, or equally intricate or mentally or physically laborious, are underpaid—as railway officers have good cause to know in their own cases. This has some effect on recruitment to most grades. It is however in the conciliation grades that the disparity with the non-railway world is having the most serious effects, not only on recruitment but also on the retention of staff, some of whom have received training costly in the railways' time and effort, and whose technical skill and experience are badly needed if the railways are to be run efficiently. It was partly because of this that, despite the very serious financial situation of British Railways, the Railway Executive last week made an offer to the three railwaymen's unions of wage increases, some account of which is given elsewhere in this issue.

Pay increases, where hundreds of thousands of employees are concerned, are bound to be a heavy burden. The making by the Executive of the offer conditional on certain measures to offset this burden by a saving in manpower, therefore seems as rational as the unions' objections to the measures are unreasonable. The manpower economy measures will not result in any considerable hardship. In the case of lodging turns, for example, all that is sought is a reversion to pre-war, the present practice being the result largely of wartime air attacks. In view of the desperate need for efficiency, and the practice in other

industries, the proviso as to the working of overtime does not demand great sacrifices. Regarding the five-day week, the Executive, far from departing from it (as is threatened in other industries) is still "prepared to extend" the application of the principle. Given the necessity for an early decision, the Executive insistence on acceptance of the proposals as a whole, as a condition of the wage increase, is reasonable, though it is much resented by the unions.

Indeed, the unions' objections to manpower economy measures are at variance with their repeated insistence on better use of manpower. It is the conciliation grades who, in the long run, will gain most from the measures proposed. Furthermore, the Executive, in seeking ways of economising, has not embarked, and does not propose to embark, on a series of dismissals, but relies on annual manpower wastage; there are few industries where security of tenure is as widespread as on British railways.

Negotiations on railway wages and conditions of service have been impeded by the conflicting claims of, and rivalries, between the railway unions. If they really wish for a larger share in the management of the railways, the unions ought surely to set their own house in order. By so doing, and, in the case of the Railway Executive's latest offer, by statesmanlike acceptance of the reasonable conditions attached to it, they have an opportunity, of which it is not yet too late to take advantage, of fulfilling their purpose.

What Kenya Owes to its Railway

IT is a truism to say that Kenya has been completely dependent on a single line of railway for its remarkable and extremely rapid development—probably more so than almost any other country. This is the more surprising, however, when it is realised that the railway was built not to benefit Kenya at all, but to assist in establishing British influence and administration at the source of the Nile in her north-western neighbour, Uganda. To reach Uganda from Mombasa, the only first-class port in the British sphere of influence on the Indian Ocean, the upland wastes of Kenya had to be crossed, and not until the coming of the railway were the possibilities of those high altitudes fully appreciated for white settlement.

The flourishing colony of today is therefore the 50-year-old child of the railway, or, to quote Sir Edward Grigg, Governor of Kenya from 1925-30, and now Lord Altrincham: "... the railway is the beginning of all history in Kenya. Without it there would have been no history of Kenya." And again: (Kenya was) "not conquered by force of arms. It was conquered by one of the greatest forces of our modern civilisation; it was conquered by a railway. The Uganda Railway was built through that country without any thought to the Highlands, and simply as the easiest road to Uganda, where we went to secure our safe position in the Congo Basin, and to make safe for ever, for the Sudan and Egypt, the sources of the Nile".

In fact, the histories of the colony and of the railway are so "inextricably interwoven" that they have perforce been chronicled concurrently by Mr. M. F. Hill in a monumental volume just published.* The vast extent of the research—largely in the realm of politics and parliamentary archives—that was obviously necessary for the compilation of this exhaustive chronological work is amazing. The author has included verbatim quotations from numerous speeches in debate and official reports. This book, which is beautifully illustrated and produced, is among the greatest railway histories, and is full of interesting information.

As recently as March-April last we published an illustrated article "Development of the Kenya and Uganda Railway", covering, so far as space permitted, much the same ground as Mr. Hill's great work, and recapitulation is therefore unnecessary and undesirable. The prelude to the construction of the Uganda Railway is, however, worth noting. From the middle of the last century treaty relations were established between the Sultan of Zanzibar and various European countries, and soon led to rivalry developing between Great Britain and Germany to establish a predominant footing in East Africa. In 1872 the British India Steam Navigation Company, under the chairmanship of Sir William Mackinnon, initiated a regular service of mail steamers between Europe, India, and Zanzibar, and the Sultan was not slow to appreciate the value of this service and further advantages likely to accrue to his subjects from a closer association with British commercial interests. Sir William was, in fact, the most prominent and consistent advocate of our opening up the hinterland, despite Foreign Office caution and a role of appeasement which seems to have been assumed time and again by successive British Governments in the face of German rivalry.

Eventually, however, the spheres of influence of the two countries were delimited by agreement in 1886, the British sphere being north-east and the German south-west of a line running north-west from the port of Tanga, north of Mount Kilimanjaro and onwards to the eastern shore of Lake Victoria Nyanza. Two years later the Imperial East African Company came into being with the object of taking over the administration and development of the concession from the Sultan; Sir William was its moving spirit. He had always had in mind what soon became his company's main objective, the building of a railway from Mombasa to the source of the Nile at Lake Victoria.

The financial resources were, however, totally inadequate for so great an undertaking, and without Government political support, if not financial aid, it was out of the question. But the directors were anxious to make a start on a project so essential to both the development of the country's legitimate trade and the suppression of the slave-trade. They therefore sent out £50,000 worth of equipment for 65 miles of light railway, and seven miles of track were laid from Mombasa; this, the first railway to be built in East Africa, was grandiloquently called the Central African Railway. Its construction was then abandoned as there seemed a prospect of the building of a more substantial line with the aid of a Treasury guarantee.

Actually, it was not until 1891 that Lord Salisbury's Conservative Government at last responded to Sir William Mackinnon's constant and insistent arguments, and agreed to guarantee the interest on a paid-up capital of £1½ million, the then estimated cost, with a small addition outside the guarantee, of building and equipping a railway to Lake Victoria. Sir Guildford Molesworth, Sir John Fowler, and General Williams were consulted and considered, from the little information available, that the line could not be built for less than £1½ million. The uncertainty as to the sum required, in the absence of surveys and estimates, caused the Treasury to hesitate to recommend a vote to cover construction costs, and instead obtained from Parliament a grant of £20,000 to finance a survey.

The directors agreed to go ahead with the survey work, but decided that they must retrench in other directions, notably by withdrawing their administrative staff from Uganda; they were only persuaded from this course and to carry on for another year by the Church Missionary and other missionary societies subscribing to the cost of administration, without which their work in Uganda could not have continued and chaos would have resulted. Missionary work and the abolition of the slave-trade were enthusiastically supported by a large section of British opinion, and a strong article in *The Times* pointed out that "such a withdrawal would be nothing short of a national calamity". It was in fact this rising public opinion that eventually caused the Uganda Railway Bill to be passed in 1896. A sum of £3 million was voted for the construction and equipment of the railway, as the surveys by then showed that this amount would be required in addition to the preliminary grant of £20,000. The final cost of the line as built was some £5½ million.

* "Permanent Way: The Story of the Kenya & Uganda Railway." On sale in the United Kingdom only on written application to the Crown Agents for the Colonies, 4, Millbank, London, S.W.1, price £1 5s. *plus* 1s. postage; also obtainable from the Railway Librarian in Nairobi

Economics of British Transport

IN the August issue of the *Westminster Bank Review*, Dr. Gilbert Walker, Professor of Economics at Birmingham University, reviews the present position of British transport and states: "the compelling fact about British transport is that the railways do not pay," since their net revenue is less than £35 million, the notional contribution to the central charges considered appropriate by the British Transport Commission. Of this total £33 million represents interest on Transport Stock. Such figures contrast strongly with the standard revenue of £51,000,000 permitted to the former four main-line companies under the Act of 1921, while even in the early part of this century, before road traffic affected the railways, the net revenue never reached this figure, although it rose from £39,000,000 in 1904 to £49,000,000 in 1911. Other factors which had an adverse effect on the financial position of the railways were the considerable increases in wages costs and changes in the structure of British industry generally.

Regarding competition from motor transport, Dr. Walker does not agree that the railways suffer an unfair handicap through having to maintain their own track. Roads were necessary in any case, and motor traffic in his view can be held responsible only for the cost of adaptation which would "probably not be more than the entire annual expenditure on the main classified ('A' and 'B') roads. The annual revenue provided by commercial vehicles in registration duty and petrol tax had already exceeded that outlay before the war and is now much greater."

It is a widely held view that the railways are economically more suited for carrying freight of a heavy and regular nature, whereas small consignments and short distances are a feature of motor transport. The author states, however, that regular services and bulk consignments between large centres are, indeed, characteristic of much of the road traffic. In other words some of the traffic for which rail transport is considered to be more economic is in fact carried by road. The principal cause of the difficulties of the railways is that, being common carriers, they cannot select the more remunerative traffic, as the Comptroller of the British Transport Commission indicated recently in evidence before the Transport Tribunal. The reason for this disadvantage, compared with road transport, is a historical one, arising out of the monopoly conditions the railways once enjoyed, which induced them to build up an extensive system of facilities so as to handle all types of traffic, but also involved regulation of rates and charges in the interest of the public. Rates have in fact been fixed on average costs rather than on actual costs of particular services. "Railway rates have generally been assessed on the average cost of working traffic over the whole railway system, and on the average cost of handling at all stations and terminals, subject always to differentiation according to the value of the goods. Road rates on the other hand are based on the particular cost of doing the particular job for the particular trader at the particular time." In consequence road transport accepts the traffic which it finds remunerative, and for which it therefore builds up facilities, whereas the railways are forced to accept what is offered—naturally the traffic which is relatively more expensive to transport.

In regard to the question of unnecessarily extensive transport facilities Dr. Walker believes that there exists some danger under nationalisation that too comprehensive a system may be developed in the case of the roads, as happened in the case of the railways. Much of the traffic carried by private traders is such as could be transported by the railways. The total number of such privately owned vehicles increased from 306,000 in 1946 to 675,000 in 1949. Of the latter total 301,000 are over 30 cwt. and therefore carry traffic comparable to that in the general merchandise classes of railway traffic. The information given recently to the Transport Tribunal indicates that, based on certain reasonable assumptions, the amount of this type of traffic carried by privately owned vehicles increased from 131 million tons in 1946 to 243 millions in 1949, and to an estimated total of 278 millions in 1950. The comparable figure for general merchandise traffic carried by the railways for 1950 is estimated at only 52 million tons, *i.e.*, only 20 per cent. of the total carried by traders, and in previous years the figure was not substantially different. From this comparison the author concludes that the increased traffic of 113 million tons carried by private traders in 1949 as compared with 1946 is largely new traffic of which much could be carried by the railways. It can also be concluded that demand for transport for this type of traffic is elastic, *i.e.*, the demand is very responsive to decreases in costs or charges. One of the main objectives of the railways should therefore be to attract some of this particular form of traffic, and to obtain it, it is necessary to reduce costs.

To reduce costs further mechanisation and reorganisation are necessary. Neither can be carried out quickly, however, and restriction of capital expenditure sets limits to the adoption of such large-scale improvements as the general braking of wagons, which would speed up freight trains considerably. The main direction in which economies can be made lies, it is suggested, in the concentration of facilities through the closing down of those stations where direct costs exceed gross receipts. This policy would improve the net revenue position of the railways considerably, but requires careful study in detail of the circumstances of each station and relative services, for road transport would need to replace that formerly provided by rail. Such a policy, impossible before nationalisation, would result in fully-loaded trains serving railheads, with road transport feeders for both goods and passengers. Adequate arrangements for stopping local trains at unmanned stations already exist in the United States and elsewhere and, where suitable, they could be adopted here. At present the Railway Executive has in use 8,270 stations or 1 to every 2½ route-miles—"a distance appropriate to the horse-drawn cartage of the nineteenth century, not to the motor hauls of the twentieth."

The result of this policy would be greater density of traffic, bringing about further reductions in costs, which would open up greater possibilities of electrification. Road transport would link up with the railways at railheads, and, although some of the traffic at present carried by private traders would be attracted to the railways, the privately owned motor vehicles would still continue to carry what it is really economic for them to transport. "Each means of transport it will be found is performing those particular services in which its particular opportunities for economic operation are most successfully exploited." Although it is not possible to reduce wage rates, even if that were considered desirable, concentration of facilities would enable a reduction in total staffing to be made, after agreeing conditions of discharge with the unions, which should not be a difficult task in times of full employment.

Such a proposal as is recommended is contrasted with what appears to be the present policy of the B.T.C., which is, in order of time, (1) to take over long-distance haulage, (2) to implement a new charges scheme, and (3) finally to make such economies as are possible. Apart from improving the financial position, economies arising from concentration of facilities, if made now, would enable the correct rate base for a proper charges scheme to be ascertained. This rate base "must obviously be founded on the lowest gross costs at which a railway can be operated when providing only those services for which the direct cost by rail is cheaper than the cost by road." To "loadability," the basis suggested by the B.T.C. in the determination of a new rates structure, it is recommended that a classification of terminals should be added.

According to the Comptroller of the Commission, while costs are 125 per cent. above pre-war, it would require economies of £30,000,000 or £40,000,000 a year to maintain charges at the present level of 81 per cent. above pre-war. Despite the efforts made already by the B.T.C., within the present framework of law and custom, to achieve economies it is considered that the position of the railways will deteriorate still further unless definite and immediate steps are taken to reduce costs through the concentration of facilities and otherwise, and to base rates on the real cost of the service provided.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Fatigue Failure in Locomotive Wheels

October 20

SIR,—With regard to the notes on fatigue failure in locomotive wheels, on page 346 in the issue of October 6-13, I seem to recollect that an early type of electric locomotive had a habit of bursting the road, the trouble being traced to excessive weight at a low centre of gravity.

It would seem possible that the diesel, or diesel-electric locomotives may be developing a side thrust that, while within the strength of the track or the wheels themselves, is sufficient to start a crack at the stamping. Marks of this type are always a source of weakness.

It would seem quite likely that a number of factors may be combining. The point seems too obvious to have escaped attention.

Yours faithfully,
COURTENAY BARRY

The Old Manor, Salisbury

Streamline Success

November 13

SIR,—Since the letter of September 15 appeared in your October 20-27 issue, details of U.S.A. railway revenues and expenses for the eight months to August have come to hand. These show the effect of the Korean campaign and defence measures on railway traffic. For all U.S.A. railways the *decrease* in passenger revenue was 10·3 per cent., while for the Southern Pacific it was 10·4 per cent. and for the Santa Fé 12·7.

For all railways, the *increase* in freight revenue was 3·1 per cent., for the Southern Pacific 9 per cent., for the Santa Fé 0.6 per cent. and for the Union Pacific 13 per cent. The freight *increase* on the S.P. equalled 91 per cent. of the *total* passenger revenue; on the U.P. it was $5,500,000 larger. On both these railways operating expenses were held somewhat below the 1949 level, so that net operating income is increasing rapidly, but not through the success of streamline passenger trains.

Yours faithfully,
R. BELL

Frognal, N.W.3

Midland Route Expresses

September 27

SIR,—In view of the "ballyhoo" in the Press occasioned by a few modest and long-overdue accelerations of British Railways expresses, may I crave a little of your space to protest against the continuous loosening with each new timetable of some timings, notably those on the London Midland Region between St. Pancras and Yorkshire? I have tabulated herewith the latest showings in times of the principal daytime expresses—so called—between St. Pancras and Leeds:

From St. Pancras	Min. slower than Summer, 1950	Min. slower than Winter, 1949-50	From Leeds	Min. slower than Summer, 1950	Min. slower than Winter, 1949-50
8.50 a.m.	11	14	7.30 a.m.	10	7
9.40 a.m.	5	17	9.35 a.m.	8	7
11.45 a.m.	2	11	10.45 a.m.	8	4
2.0 p.m.	11	11	12.20 p.m.	16	11
3.12 p.m.	11	13	2.30 p.m.	6	4
4.50 p.m.	9	9	3.43 p.m.	10	7
Average	8	12½	Average	10	7

I realise, of course, the official explanation—the colliery subsidences between Leeds and Trent and Nottingham—but strongly suspect that these are a cloak for poor control on the part of the operating authority. This is borne out by comparatively recent journeys in which, for instance, the 47 miles from Chesterfield to Leicester were covered in 59½ min. with no higher speed than a momentary 65 m.p.h. achieved at Loughborough. The latest timing for this stretch becomes no less than 79 min. (down) and 74 (min. up). On another occasion the 28½ miles from Chesterfield to Nottingham were covered in 44¼ min. compared with a latest timing of 56 min. (up) and 55 min. (down). On the first journey a late departure from Sheffield of 17½ min., due entirely to signal checks between Leeds and Sheffield was converted into an arrival 8 min. early at St. Pancras in spite of further bad signal checks, showing that at least some enginemen are enterprising enough when they are given a chance.

Particularly in view of the speedy services offered today by French, German and Italian railways, one feels that the long-suffering British public deserves something better than the mediocrities offered by British Railways at present. When they offer services approaching the general excellence of 1939 there might be good reason for self-congratulatory Press notices.

Yours faithfully,
G. GORE

194, Greenvale Road, S.E.9

Rail Joint Problems

November 11

SIR,—Referring to reports in your recent issues on rail joint problems and rail joints, it is noted that efforts are being made to improve fishplate design with a view to obtaining flexibility of joint. The "C" (Cesar) fishplate of the Belgian National Railway and the Durand elastic fishplate now undergoing tests in France are examples described. In this country British Railways have also had under test on bullhead fast main line track, for over five-and-a-half years, a much simplified form of fishplate for obtaining full flexibility, which to date has given every satisfaction. This is a suspended joint with the fishplate making a positive bearing on the joint chairs and thereby forming a girder type fishplate, the upper surface bearing on, and supporting, the underside of the rail head. The joint chairs are wider than the standard chairs to receive the fishplates and the whole assembly is bolted with two standard fishing bolts.

The design is applicable to flat bottom track.

Yours faithfully,
W. P. LEIGH

Shalcrosse, West Humble, Dorking

Passenger Services on West London Line

October 5

SIR,—I am glad to see that the correspondence on this subject has been reopened, and I should like to make a few observations to supplement those which have already been made.

Two small incidents in the past few years show that Olympia exhibition traffic is not by any means confined to District and Piccadilly Line stations served *via* Earls Court. During one of the exhibitions in 1947 a notice on a blackboard at Willesden Junction read: "Olympia direct line closed. Passengers travel *via* Edgware Road." The official concerned would not have thought of advertising that circuitous route, involving changes at Queens Park (possibly), Baker Street, Edgware Road, and Earls Court, unless there were potential traffic from Willesden and the north-west.

Some time later, the Putney Bridge-Edgware Road service, which then terminated at High Street after 7.30 p.m., was worked to Edgware Road during the late evening as a temporary measure while the exhibition was on:

this could only have been to cater for Paddington traffic from Olympia.

Leaving out proposals for further development, the urgent need is for some service on the lines of pre-war facilities. As a beginning, a service might be given on each route every 20 min. in the peak hours only, until traffic had been sufficiently built up to justify an all-day service. A timetable could be worked out in such a way that Willesden-Earls Court trains passed Kensington 3 min. after the arrival of trains from Edgware Road and 3 min. before the departure of trains to Clapham Junction, and similarly in the reverse direction, to give the best connections. This could be arranged without waiting for the rehabilitation of the former intermediate stations, which could be brought into use as and when circumstances permit. The chief need is to get *something* started.

The rolling stock would not present any difficulty. That for the Willesden-Earls Court service is still stored in Stonebridge Park shed. That for the Edgware Road-Olympia service could be provided by London Transport as the stock which it now provides during exhibitions would not be required on that line, the L.M.R. stock covering the Earls Court service. That for the Kensington-Clapham Junction service is already being provided for the "skeleton" service now being given. Incidentally, there can surely be no longer any reason for not giving particulars of this in the public timetables.

Yours faithfully,

F. G. B. ATKINSON

70, Queen Alexandra Mansions, W.C.1

The Southern Region Pacifics

October 30

SIR,—In a recent article by a well-known writer in one of the modellers' magazines a description was given of Mr. O. V. Bulleid's chain-driven valve gear, which did nothing but find fault with what may yet, even at this late stage, prove to be a serious rival to the already well-established valve gears.

I could have written to the magazine concerned, but I feel that *The Railway Gazette* probably has more readers with a knowledge of Bulleid's valve gear, and, as I am sure that the writer of the article reads *The Railway Gazette*, he will, I hope, learn more facts and opinions which will make him a little less scathing in future articles.

He criticises the chain drive and speaks of " a pile of discarded chains at one Southern depot." However, previous letters in your columns have, I think, proved that the fault does not lie there. He says that no more S.R. Pacifics are being built pending the appearance of the standard British Railways locomotives, but I would point out that the latest Southern Region Pacifics were completed only a short time ago. It is significant, however, that none of the new British Railways standard Pacifics has been allocated to the Southern Region, and so, presumably, the Region needs no new Pacifics in spite of the alleged inefficiency of existing types.

I think it will be agreed that the "Merchant Navy" class is comparatively free from the troubles which affect the "West Country" and "Battle of Britain" classes, and a study of the duties on which they are used may give a hint as to the cause of the troubles.

The "Merchant Navy" class is used largely on non-stopping express trains on the Western Section, in the hands of top link drivers, who are naturally more experienced and, presumably, better drivers. The "West Country" and "Battle of Britain" classes are used in large numbers on the Eastern Section, where, I am told, there exists a dislike for anything not designed by Maunsell. The trains stop frequently, pull heavy loads, and are therefore subject to greater strains than they would be on normal express work. The drivers, for the most part, are No. 2 Link men and will be on a Pacific one day, on a "Schools," "King Arthur" or a "B.4" the next, and so on. I have seen a "West Country" wheel-slipping out of London Bridge with the driver leaning out of the cab watching and laughing at the wheels slipping, instead of attempting to stop them from doing so. Is it possible that the engines are being worn out prematurely by inexperienced footplate men?

The critic also mentions the large amount of oil lost. This surely indicates bad maintenance. An oil bath doesn't leak if it is properly maintained. One of Bulleid's ideas in designing the valve gear was to cut down the amount of maintenance required. However, I am sure he did not intend that which *is done* to be slipshod.

I do not wish to convey the impression that I can find no fault with the S.R. Pacifics, but I do like to see fair play, and therefore it is my hope, Sir, that you will print this letter and any replies, as I feel that it is about time that the criticisms of Bulleid's valve gear were backed up or refuted by facts and figures given by railwaymen, not railway modellers.

Yours faithfully,

P. E. SAXBY

64, Marville Road, S.W.6

Railway Efficiency

November 11

SIR,—I must thank Mr. Barrie for giving us some impressive-looking figures in your October 20 and 27 issue.

The democratic and far-sighted directors of the former L.M.S.R. kept the way open for a man to go from bottom to top by sheer ability and through normal promotional channels. Three men did go to the top from a scratch start without "special training" and they were subsequently elected to the Presidency of the Institute of Transport, which is the greatest honour the transport industry can confer on one of its members. Before 1948 there were others bidding fair to emulate them. These men were always in competition with ex-apprentices, but won through on their ability, personality and railway experience. Can Mr. Barrie tell us that this fair and free-for-all policy will be actively pursued now and in the future?

To Mr. Warwicker my compliments on a brilliant illustration of his own argument.

Yours faithfully,

W. ROSE

19, Darley Road, Manchester 16

Views on Electrification in Germany

September 22

SIR,—In your September 8 issue Mr. Bell gives certain figures about density of traffic in the U.S.A. and finds that, compared to European conditions, our American friends move quite a lot of goods on their railways. He however, overlooks the fact that from the point of view of railway electrification it is not the total amount of goods transported per day, represented by his figures, that is of interest, but the number of trains on which these goods are distributed. Obviously the cost of fixed plant would be prohibitive if the day's tonnage was to be transported in one gigantic train, while on the other hand smaller and smaller trains are required the greater the number of trains on to which the load is divided.

Mr. Bell may be able to supply up-to-date figures, but I only have data collected before the last war indicating that, on an average, five trains a day ran on the American non-electrified lines in each direction as against 26 on the English steam-operated railways; the electrified portions carried daily 86 (U.S.A.) and 103 (U.K.), respectively. The last two figures call for comparatively cheap motive power and allow for fairly expensive line equipment to obtain the economic optimum, but Swedish lines, with an average of 13 pairs of trains a day, may only be electrified economically by means of a.c. power with somewhat more expensive motive power but much lower line costs.

I hope that this explanation will help Mr. Bell understand that, whilst diesel-electric locomotives may be considered most suitable for American super-heavy trains, electrification will give a far better economic result under European conditions.

Yours faithfully,

H. OVERHOLM

ASEA, Västeras, Sweden

THE SCRAP HEAP

25,000 Times Round the World

London Transport, despite a decrease in receipts, last year carried 2,000,000 more passengers daily than before the war. Rail and road vehicles operated by London Transport staff in one year cover a distance of more than 25,000 times round the world and the number of passengers carried in the year equals more than twice the population of the world.—*Lord Latham, Chairman of London Transport, in a message to the staff.*

Unrehearsed Act

A reader writes that a recent issue of the *Frankfurt News Letter* of the American Forces Network relates that a circus elephant, being transported by the famous Wupperval Suspension Railway, took fright, broke out of its cage and the car and fell into the river below, injuring several passengers with flying glass.

Its owners have been called to court on a charge of negligence and the case has now been adjourned for the time being to allow the elephant, which was apparently uninjured, to be brought to court to show what a really docile creature it is.

The G.N.R.(I.) in Tyrone

In the Omagh district recently Richard Dimbleby made three recordings of railway items for his "Down Your Way" programme which was broadcast on November 5. Miss Vera Hurst, the operator in the telephone switch room in Omagh, described the private line installation with its various connections throughout Northern Ireland.

Driver J. Dodds, of the Adelaide locomotive shed, was recorded in the cab of the 6.40 p.m. diesel train from Derry on arrival at Omagh, and described his controls and compared the days of steam motive power with modern diesel work.

The final item was a recording made by the driver of the Fintona horse tram, Mr. W. J. McClean, who has been driving it for over 30 years. The B.B.C. party at the recording took the opportunity to have a ride on this tram for which they were given third class return tickets from Fintona to Fintona Junction.

Theatre Train Fully Booked

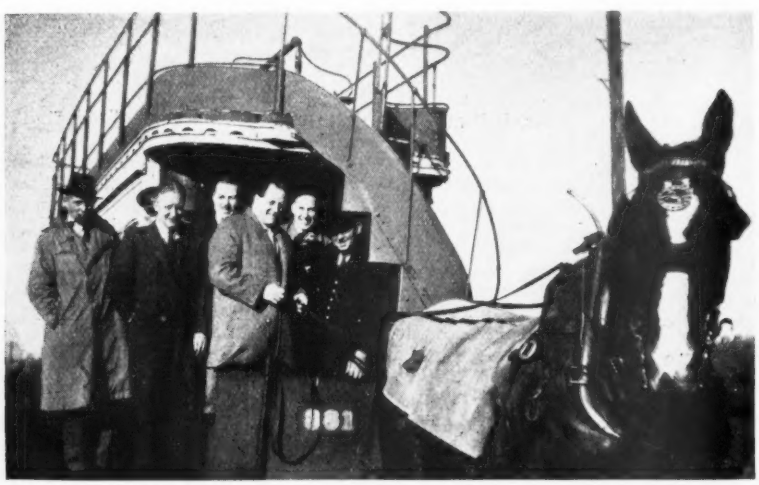
Over two months before it is due to run a North Eastern Region theatre train from Saltburn to Newcastle is completely booked to carry 438 passengers on January 17 to see "Jack and the Beanstalk" at the Theatre Royal in Newcastle.

For an inclusive fare (22s. from Saltburn, 120 miles round trip, or 20s. 9d. from Middlesbrough, 94 miles round trip) British Railways provide transport, afternoon tea on the train, a seat in the stalls or circle, and supper on the return train journey.

So far 16 pantomime-season trains have been arranged to carry 3,850 passengers to theatres at Leeds, Newcastle, Stockton, and Sheffield, and it is hoped to run in February a repeat of the train from Saltburn to Newcastle which has filled so quickly.

"Winter service started, I see"

[Reproduced by permission of the proprietors of "Punch"



The Fintona to Fintona Junction shuttle tram; first and second class inside, third class on top (see paragraph above)

"Nocturne"

This is the night of mystery,
When ghost-shrouds hang from bush and tree,
The daylight, struggling to be born,
Has died into a dusk forlorn.
Tonight, the old, old things hold sway
And fretful fancies have their way;
Mingling with mists and silent rain,
Memories come crowding in amain
And melancholy's cup is full.
The world is wrapped in cotton-wool;
There is no moon, no cheering star,
God's lanterns have been banished, far.

Within this kingdom of the mist,
Whose sentinels Jack Frost has kissed,
The blind are rulers of us all.
Within this white and woolly wall
Phantasy claims me for her own;
I seem alone, so much alone.
Despairing, almost, of the light,
I hear a rumbling in the night,
An engine whistles, far away,
A fogman's signal hails the day;
What matter memory, fog, or rain?
They're on the job—all's well again!

A. B

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

RHODESIA

Financial

Revenue during the three months ended June 30 amounted to £2,785,252, an increase of £313,386—mostly in respect of general goods traffic—over the figure for the corresponding period in 1949. Expenditure for the quarter totalled £2,246,726 or £394,371 more than last year, leaving a surplus of £538,526, or £80,985 less than in the previous year.

Traffic

Passenger traffic for the three months reflected a decrease in almost all classes, but most other traffics showed considerable increases. Coal and coke carried increased by 61,089 tons to a total of 517,403. Other increases of note were mineral traffic, 29,443 tons to 318,643, and general goods, 87,988 tons to 621,771; the grand total being 1,457,817 tons, an increase of 178,520 compared with 1949.

Operational Records

Train and net ton-miles during August reached the record figure of 754,160 and 228,982,000 respectively. Coal carried (191,149 tons) was 14 per cent. more than in the same month of last year, and is one of many instances of the success of the railway in increasing movement to meet rapidly developing industrial needs.

SOUTH AFRICA

Traffic Features

Train-miles operated in the first three months of the current financial year amounted to 21,167,807, compared with 21,087,498 in the corresponding period last year.

With the maize season in the Orange Free State and Western Transvaal in full swing, demands for road motor transport are increasing. It is estimated that in the Free State more than 750,000 bags of maize have to be moved by road to railheads, elevators, and maize stores. All available vehicles are being concentrated on the Free State and Transvaal maize belts.

Coal conveyed by rail in the first seven months of the calendar year amounted to 12,619,530 tons as against 11,925,271 tons in the corresponding period of the previous year. May, 1950, with 2,044,416 tons moved by rail, was the heaviest month. In July, 278,805 tons of coal was exported. The railways moved 468,697 tons of coal in the second week of August, the highest weekly figure yet recorded.

An all-out drive during July and August to clear accumulated traffic from the ports, relieve congestion at goods yards—at Prospect in particular—and keep coal moving from the mines, produced a notable improvement in the general traffic position. Goods earnings during the week ended August 19, for instance, amounted to £1,159,822, the highest figure yet recorded. Ten years ago the total weekly earnings averaged less than £700,000 a week. In the same week mentioned above, four-wheel wagons loaded numbered 105,850, the largest weekly figure yet recorded.

Road Services

The railway road motor services constitutes the main transport link between the outlying areas and their nearest town and railhead. The route-mileage covered by the services totals nearly 26,000, and the fleet of 1,650 vehicles includes modern inter-town motor coaches, double-deck suburban buses, dual-purpose and goods vehicles with a carrying capacity ranging up to 20 tons, more than 600 trailers of from one to 45-ton capacity, and cream and petrol tankers. During the past financial year the road motor services carried nearly 14,000,000 passengers and 1,754,000 tons of goods in addition to 193,000 head of livestock and nearly 3,000,000 gal. of cream.

NIGERIA

Rates Increase

On April 1 a temporary addition to the salaries and wages of all employees of the Nigerian Government was granted, and a 12½ per cent. for the junior service staff, and a 10 per cent. for the senior service staff. The effect of this increase so far as the Nigerian Railway is concerned meant that an additional £277,000 would be paid in salaries during the financial year ending March 31, 1951, which would have resulted in a deficit in the balance sheet. To offset this deficit, it was therefore decided to impose a 10 per cent. surcharge on all passenger and freight rates with effect from September 17, 1950.

Groundnuts

In the past few years the railway has been unable to clear the annual crop of groundnuts before the harvesting of the following year's crop. This has resulted in large stocks being stored at Kano. This situation has now changed, and the 1949-50 crop was expected to be completely cleared by the end of September, and it was hoped to commence moving the 1950-51 crop as soon as harvesting began in November. Unfortunately, the 1950-51 crop will be much reduced; no more than 200,000 tons is expected, which indicates a shortfall of some 100,000 tons due to lack of rain. This represents a loss of some £480,000 to railway revenue.

Lagos Port

In the Port of Lagos, the Apapa Wharf, which is controlled by the railway, was congested during May, June, and July due to the heavy imports. As a result of a rigorous drive this congestion was overcome, and today imports are cleared without delay. The extension to Apapa Wharf, which will double the present berthing capacity, has begun, and it is hoped the one-third of the extension will be available for use in 1953-54.

Northern Extension

Good progress is being made in the surveying of the proposed extension of the railway from N'guru to Maiduguri, some 224 miles. Approval has now been given by the Government to survey the futher 40 miles to Bama, which is in the mandated territory administered as part of Bornu Province, Northern Nigeria. The survey work is being undertaken by the Colonial Development Corporation.

CANADA

Box Car Orders

Canadian railway builders have received orders for 2,000 50-ton all steel box cars for the Canadian Pacific Railway. The box cars, 1,000 of which will be built by the Canadian Car & Foundry Company, Montreal; 500 by the National Steel Car Corporation, Hamilton, Ont., and 500 by the Eastern Car Company, Trenton, N.S., are measuring 44 ft. 4 in. overall. Delivery of the cars will begin early in 1951.

Five thousand steel box cars, costing approximately $33,000,000, have been ordered by the Canadian National Railways from Canadian builders. Delivery will begin early in 1951 and will alleviate the present shortage in this type of rolling stock.

The new order brings to $46,700,000 the total spent by the C.N.R. on 1950 orders for new equipment. Three companies, the Canadian Car & Foundry Company, the National Steel Car Corporation, and the Eastern Car Company will share the new order. The wagons will have a capacity of 50 tons. They will be all-steel in construction with a lining of wood on the sides and ends and a wooden floor. The side framing will be built so that it does reach the wood floor and this arrangement will facilitate repairs to the flooring. Another new feature will be the elimination of the wooden lining in the roofs; instead, the insides of the steel roofs will be sprayed with an asphalt compound to absorb condensation. The latest type of four-wheel bogies, with new brake beams that conform to latest safely and A.A.R. standards will be fitted.

UNITED STATES

Long Island Rail-Road Collision

Seventy-eight passengers were killed and at least 330 injured in a collision on the Long Island Rail Road on November 22. A train for Hempstead which had left Pennsylvania Station, New York, at 6.9 p.m. and had been stopped by signal near Kew Gardens, was run into by the 6.13 p.m. from

Pennsylvania Station to Babylon, composed of aluminium stock and travelling at speed. Both trains were crowded. It was stated that the brakes of the 6.9 p.m. had jammed and the train could not restart. Marks showed that the second train had skidded about 1,000 ft.

The accident is one of the worst in American railway history. The death roll is the highest since the collision at Frankford Junction, Philadelphia, in 1943, when 80 persons were killed. The Governor of New York State has ordered an immediate investigation "of the circumstances of the wreck and of the entire management of the railway."

ARGENTINA

New Locomotives and Rolling Stock

The Ministry of Transport has stated that it is expected shortly to place into service 26 diesel-mechanical trains built by Ganz. Sixteen of them, designed for short- and medium-distance work on broad-gauge lines, will include four one-class coaches. Five more, also for broad-gauge, will be made up of two motor coaches, two passenger coaches, and a dining car, and will run on long-distance services. The latter will have semi-Pullman seating and air-conditioning equipment. Another five have been constructed to run on standard-gauge lines, and include four one-class coaches.

Apart from the foregoing, two standard-gauge sets have been ordered, with passenger, Pullman, and bar and kitchen coaches. These will have air-conditioning, fluorescent lighting, electrostatic dust-collectors, air sterilisers, and electric door controls. They will accommodate 253 passengers.

Also due to arrive in the near future are twenty P.S.11 type Caprotti steam locomotives for heavy express passenger work, similar to those already in service on the General Mitre Railway.

IRAQ

Winter Services

The winter passenger timetables of the State Railways, whilst leaving the standard-gauge Baghdad-Mosul services, which were substantially accelerated in the summer, almost unchanged, introduce a saving in Baghdad North-Kirkuk-Erbil overnight journey of 45 min. and 55 min. respecticely. Thirty-five miutes are saved between Khanaqin City and Baghdad. Return portions of tickets between Baghdad and Mosul are now available between Baghdad and Erbil.

On the Baghdad-Basra Section, apart from improvements in the Hindiyah Junction-Kerbala branch services, the night mail trains now take 35 min. less down and 40 min. less up for the throughout journey, giving arrivals at Basra (Al-Maqil) at 9 a.m., and at Baghdad West at 9.15 a.m., with departures remaining at 6.15 p.m. from Baghdad West and 6.30 p.m. from Al-Maqil.

The mail train engines, which have always worked through over the 353 miles, no longer require to re-fuel at Samawah, because of recently-increased fuel-oil tender capacity. The through-coach service from Baghdad to Nasiriyah by the mail trains has been accelerated by 45 min. and the daily slow train from Baghdad to Basra by 50 min. Return portions of first-class rail and of Iraqi Airways tickets have been made interchangeable between Baghdad and Basra.

New Tigris Bridge

From October 23, goods trains have been working across the new Tigris rail and road bridge at Baghdad, connecting the metre-gauge Baghdad-Basra and Baghdad-Kirkuk sections. The bridge was described in our December 10, 1948, issue. The cross-river trip between Baghdad West and Baghdad North marshalling yards saves two to three hours on the previous crossing by wagon-ferry; wagons despatched one night from Basra can now reach Kirkuk, 553 miles, on the second evening. The official opening of the bridge will take place as soon as the road portion has been completed.

IRELAND

Old Debt Wiped Out

The interest and debt of a loan granted by the Treasury to the Parsonstown and Portumna Bridge Railway was wiped out under the terms of the Public Works Loans Bill issued in London recently.

Of a sum of £12,450 lent in 1867 only £6 was repaid. The principal outstanding, £12,444, and the accumulated interest amounting to £49,154 made a total of £61,598 which was remitted.

The railway, which was completed in 1861, ran from Birr (formerly Parsonstown), to Portumna, 12 miles. The then Board of Works asked for the loan mentioned from the Treasury to support a small sum which had been raised locally. The line never paid its way and eventually the company was obliged to sell the concern to the Great Southern Railway, which operated it for a few years but closed it as it continued to lose money.

Later, there was strong agitation to have the line reopened, but it was found that most of the railway had disappeared. Shareholders, determined to get some return for their money, and local farmers took everything they could lay hands on and almost overnight the station at Portumna, tracks, sleepers, in fact, everything movable was removed.

Road-Rail Experiment

An interesting experiment was inaugurated on November 27 when Coras Iompair Eireann began to operate road services in addition to the railway service between Claremorris and Ballinrobe, twelve miles.

During an experimental period of six months the public is being invited to select either rail or road on the basis solely of suitability for its needs. This area has been selected because Claremorris, an important railhead station for the surrounding district, is typical of many other railhead stations on the C.I.E. It is hoped that the experiment will produce facts having a bearing on the general question of the economic working of branch lines.

Trains and buses will leave Ballinrobe at the same time to make the connection for Dublin and there will be no difference in rates and fares for either passenger or goods traffic.

NETHERLANDS

New Rolling Stock

Orders have been placed with Beynes and Werkspoor for 70 new coaches for long-distance traffic. The order includes 40 third class and 20 first and second class coaches and 10 buffet cars with luggage compartment.

The number of third class compartments in each coach has been reduced from ten to nine to gain more room between the seats. There is thermostat heating. A bright external colour scheme, turquoise with blue band, has been adopted to match the colour shades of the new electric locomotives. There will be 72 seats in the third class coach, 48 in the first and second class coach, and 15 in the buffet car. Each coach has a total length of 74 ft. 4 in.

Recent trial runs with the first vehicles were entirely satisfactory. The coaches are to be put into service as they arrive from the manufacturers and should all be available for the next summer timetable. They will form block-trains which will be used on express services between the northern provinces and the west.

JUGOSLAVIA

New Railways

Two railway lines are at present building in the north and north-west of Belgrade. One, standard-gauge, and 13½ miles long, is from Mol, on the Novi Sad-Senta line, to Obornjac. It is mainly intended to increase the transport facilities of the rich agricultural region between Novi Sad and the Hungarian frontier. Novi Sad is on the Belgrade-Budapest main line, 47¾ miles from Belgrade, and Mol is 51½ miles from Novi Sad on the railway skirting the western bank of the Tisa river and reaching the Hungarian frontier at Horgos, 34 miles north of Mol. It is expected that the earthworks of the new line will be completed this year.

The other line is narrow-gauge, about 1¾ miles long from Knezhevi Vinogradi to Jasenovac. Knezhevi Vinogradi is on the 34-miles standard-gauge line from Osijek *via* Beli Manastir to Batina Skela, on the western bank of the Danube north of Osijek and close to the Hungarian frontier. On this line, Knezhevi Vinogradi is 26 miles from Osijek. This line, also intended to facilitate the transport of agricultural produce and livestock towards the consuming centres in the south *via* Osijek and the Belgrade-Zagreb main line. The shortest link from Osijek joins the latter at Vinkovci (21 miles from Osijek). The Knezhevi Vinogradi-Jasenovac line is scheduled to be opened to traffic in October.

Economics of Long-Distance Electrification

Comparisons of cost and performance between high-voltage d.c. and a.c. systems

By Stephen A. Vincze, A.M.I.E.E.

IT is generally agreed that for purely metropolitan, underground, and suburban lines carrying heavy traffic on comparatively short distances, 600 to 1,500 V. d.c.—preferably converted by mercury arc rectifiers from the general industrial network—is the most suitable system for railway electrifications; on the other hand, both high voltage d.c. and a.c. are successfully applied on long-distance and on long-distance *plus* suburban schemes, and the choice of the system is a matter of applied economics.

The investment costs of electrification comprise:—

(A) The cost of the fixed traction equipment (energy supply and distribution, signals, and communications).

(B) The price of the rolling stock (locomotives and motor coaches).

The ratio A/B should be such that the sum A + B is a minimum. There is a definite relationship between traffic density (gross ton-miles per route-mile per year) or—in electrical terms— the linear density of energy consumption (kWH. per route-mile per year)—and the most economic energy supply system. Parodi and Leclerc* have found that the following systems are particularly suitable in the conditions shown.

TABLE 1

For linear energy densities greater than 800,000 to 1,600,000 kWh/route-mile/year, 600-800 V. d.c., 3R and 4R*
For linear energy densities of 480,000 to 800,000kWh/route-mile/year, 1,500 V. d.c., O.H.
For linear energy densities less than 480,000 kWh/route-mile/year, 3,000 V. d.c. or 15-20 kV. single phase a.c., O.H.

* 3R — Third rail, 4R — Third and fourth rail. O.H. — Overhead

Tables 2 and 3, compiled from published data of the railways concerned, seem to bear out the above suggestions.

As a comparison, had the New Zealand Railways† Auckland-Wellington main trunk line been electrified by 1946-47, its linear energy density would have amounted to approximately 240,000 kWH./route-mile/year.

Substations and Overhead Contact Line

The copper section of the contact line and the spacing of substations is governed by traffic considerations, and by the necessity of transmitting the required power to any point of the line without undue voltage drop. With longer distances between substations, the loads add together in such a way as to allow better utilisation of the generating and substation units. However, the substation spacing is limited by the need to keep the magnitude of possible short-circuit currents within manageable bounds.

Though each particular case should be examined and considered on its merits, the following comparison of the main characteristics of 1,500-V. d.c., 3,000-V. d.c., and 15-kV. 16⅔ cycles single-phase a.c. systems will give some idea of the quantities involved. The track section as to realise uniform load distribution. It is interesting, from a theoretical angle, that a uniformly distributed load would allow the following

TABLE 2 METROPOLITAN AND SUBURBAN ELECTRIFICATIONS

Railway	Approx. route-miles	kWh./route-mile/year	System	Ref. year
Paris Metropolitan	64	4,000,000	650 V. d.c. 3R	1930
London Transport	180	2,680,000	600 V. d.c. 4R	1937
Hamburg Metropolitan	21	2,200,000	1,200 V. d.c. 3R*	1937
Berlin Metropolitan	158	1,950,000	800 V. d.c. 3R	1937
Copenhagen Suburban	24	1,060,000	1,500 V. d.c. O.H.	1937
Brussels-Antwerp	36	946,000	3,000 V. d.c. O.H.	1937
Southern Region	610	850,000	600 V. d.c. 3R	1938
Manchester-Sheffield	75	750,000†	1,500 V. d.c. O.H.	1947
Vienna Metropolitan	17	710,000	1,500 V. d.c. O.H.	1937

* Converted during the war from 6,000 V., single-phase, 25 cycles a.c.
† Under construction. Based on the estimated coal saving

TABLE 3 LONG-DISTANCE MAIN-LINE ELECTRIFICATIONS(‡)

Railway	Approx. route-miles	kWh/route-mile/year	System	Ref. year
Natal (S.A.R. & H.)	404	600,000	3,000 V. d.c. O.H.	1947
Italian State Rlys.	1,240	580,000	3·7 kV., 3-phase, 16⅔ cycles a.c.	1937
France (P.O.)	410	530,000	1,500 V. d.c. O.H.	1937
Holland (State Rlys)	349	464,000	1,500 V. d.c. O.H.	1937
Germany	1,459	464,000	15 kV., single-phase, 16⅔ cycles a.c.	1937
Italy	1,210	402,000	3,000 V. d.c. O.H.	1937
Switzerland	1,330	390,000	15 kV., single-phase, 16⅔ cycles a.c.	1937*
Hungary	117	312,000	15 kV., single-phase, 50 cycles a.c.	1937
Sweden	2,796	266,000	16 kV., single-phase, 16⅔ cycles a.c.	1937†
Norway	409	226,000	16 kV., single phase, 16⅔ cycles a.c.	1937

* 2,435 route-miles in 1947 ; 1,525 route-miles and 464,000 kWh/route-mile/year in 1944
† 323,000 kWh/route-mile/year in 1945

TABLE 4 COMPARISON OF D.C. AND A.C. ELECTRIFICATIONS

Distribution System, O.H.	1,500 V. d.c.	3,000 V. d.c.	15 kV. 16⅔ cycles a.c.
Contact wires	2 × 0·155 in.²	2 × 0·155 in.²	0·124 in.²
Catenary wire	0·186 in.²	0·186 in.²	0·077 in.²
Return feeder*	4 × 0·186 in.²	0·310 in.²	0·403 in.²
Total copper section	1·24 in.²	0·806 in.²	0·403 in.²
Substation Spacing (miles)	12	21·6	60
Line resistance, or impedance between substations (ohms)	0·78	1·835	40
Max. voltage drop	30 per cent.	30 per cent.	30 per cent.
Max. halfway load (kW.)	2,400	3,200	5,000
Substation kW. Installed	2 × 1,500	2 × 2,000	3 × 2,400
Max. load allowed for (kW.)	2 × 4,500	2, × 6,000	3 × 6,000
No. of substations per 1,000 miles route	85	48	17
Total substation kW. that must be installed	255,000	192,000	122,000
Costs per 1,000 miles of overhead contact line	£2,950,000	£2,680,000	£2,160,000(A)
,, of substations (motor-alternators)	—	—	£1,035,000(B)
,, of 1,000 miles 70 kV. 3-phase feeder	£984,000	£984,000	—
,, of mercury arc rectifier substations	£2,720,000(C)	£1,600,000(D)	—
Total cost	£6,654,000	£5,264,000	£3,195,000

Notes : (A) Includes booster transformers and return wire to avoid interference with communications circuits
(B) £61,000 each
(C) £32,000 each
(D) £33,300 each

* Parallel feeder in the case of the d.c. systems

prices are those obtaining in Sweden in 1935. They can still be used as purely comparative values.§

It may be pointed out that in many countries rail return can be used with a.c., thus obviating the costs of return feeder and booster transformers, and further reducing the costs of the a.c. system.

With uniform load distribution the contact line will carry greater loads for a given voltage drop than with concentrated load. Three 3,200-kW. loads (total 9,600 kW.) distributed on a 60-mile 15-kV. line will cause about the same voltage drop as one 5,000-kW. halfway load. The greater the distance between feeding points the greater is the chance of obtaining favourable load distribution. With 1,500 V. d.c. there will seldom be so many trains on a 12-mile powers to be taken between two feeding points§ : —

TABLE 5

Distribution system	Sub-station spacing	Substation load at 30 per cent. voltage drop	kW/mile that must be installed	Total capital cost of the distribution
1,500 V. d.c.	12 miles	4,800 kW.	400	£6,654,000
3,000 V. d.c.	21·6 ,,	6,400 ,,	296	£5,264,000
15 kV, 16⅔ cycles single phase	60 ,,	10,000 ,,	167	£3,195,000

This, again, corroborates the fact that the greater the distance and the less the traffic density, the higher are the economical voltages and substation spacings, and vice versa.

It is significant that, of the overseas electrifications quoted in Table 3, those having linear energy densities less than 400,000 kWH./route-mile/year are invariably electrified on the 15-16-kV. low-frequency single-phase system. A

notable exception is Hungary, pioneering the 50-cycle single-phase Kandó system. It is also noteworthy that the French National Railways propose to carry out further electrifications—when the Paris-Lyon electrification has been completed—on the 20-25 kV. 50-cycle single-phase a.c. system.

Communications

Contrary to popular belief, properly engineered a.c. traction installations actually cause less telegraph and telephone interference than d.c. installations. According to H. Ofverholm§: "The attitude of the Post Office authorities in Sweden has completely changed during the 30 years of a.c. traction. At first d.c. was preferred from a communications viewpoint, but now it is realised that with a.c. it is possible to run communication services completely undisturbed, whereas d.c. gives much trouble, and no method has yet been found to avoid d.c. corrosion satisfactorily. D.c. earth currents get into the lead sheath of underground communications cables, causing endless trouble. They are carried far around the country, long distances away from the suburban lines which are electrified with d.c."

Overall Efficiency

The yearly overall efficiency of a.c. distribution systems is in general equal to or greater than that of d.c. systems, for the following reasons:—

1. As can be gathered from Tables 3 and 4, the installed plant capacity must be greater, and its utilisation is in consequence less, with d.c. than with a.c.

2. In general the traction motors of d.c. vehicles are started and controlled through resistors, whereas a.c. traction motors are started and controlled by varying their terminal voltage.

Typical figures for the overall efficiency of the power distribution are‖ the following:—

TABLE 6

Railway	Overall efficiency (per cent.)	Notes
France	76 to 91	From H.T., a.c. side of sub-station to d.c. contact wire.
Austria, Germany, Switzerland	90 to 92	From alternator terminals to the a.c. contact wire, if generated at 16⅔ cycles.
Sweden ...	... Above 83	Between 3-phase feeding point and 16⅔-cycle contact wire, if converted by motor alternators from the industrial 50-cycles network.

Cost and Performance of Locomotives and Rolling Stock

Comparative costs of d.c. and a.c. locomotive and rolling stock are shown in Table 7; the price of 1,500-V. d.c. equipment being taken as the basis of comparison.

TABLE 7

	1,500 V. d.c.	3,000 V. d.c.	15 kV. 16⅔ cycles	20 kV. 50 cycles
	Per cent.	Per cent.	Per cent.	Per cent.
Locomotives ... (2,000 h.p.)	100	115	108·5	118
Motor coaches (700 h.p.)	100	122	105·5	—

It should be pointed out that 600-V. d.c. rolling stock is considerably cheaper than 1,500-V. rolling stock.

The maximum output per motor that can be accommodated with individual axle drive within a given track gauge is greater with 16⅔ cycles a.c. than with d.c. motors. The limiting output of 50-cycle single-phase commutator motors is one-third that of 16⅔-cycle motors; or their weight for the same output is three times as great.

The limiting output per axle and the weight/power ratio of modern d.c. and a.c. traction motors for standard 4 ft. 8½ in. gauge vehicles is given in Table 8, based on the 1-hour rating.

TABLE 8

	1,500 V. d.c.	16⅔ cycles a.c.	50 cycles a.c.
H.p. per axle	700	1,000	300-350*
Lb./h.p. ...	13-26	6·7-7·5	20-22·5

[These figures are substantially exceeded in the first of the S.N.C.F. 50-cycles locomotives. Ed. R.G.]

Southern Region suburban and express rolling stock motors weigh 29·3 and 27·5 lb. per h.p. respectively, whereas the motors of the latest Southern Region locomotives weigh 26 lb. per h.p. Even the lightweight motors to be adopted with future Southern Region stock weigh 15·6 lb. per h.p.

Single-phase a.c. (16⅔ cycles) locomotives are considerably lighter and more powerful than comparable d.c. locomotives. The latest 50-cycle single-phase Kandó locomotives are only 20-30 per cent. heavier than 16⅔-cycle locomotives, whereas designs for modern 50-cycle single-phase a.c. locomotives which could be operated both on a.c. and d.c. have weights about the same as those of ordinary d.c. locomotives of the same horsepower rating.

The maximum 1-hour output, the weight/power and the power/weight ratios of modern single-unit locomotives at present in operation are given in the following table:—

TABLE 9

	D.c.	16⅔ cycles a.c.
Max. h.p. (1-hour rating)	1,200 4,200	2,200-6,200
Lb./h.p.	73 130	38·2-83
H.p./ton	17 30·4	27 58

According to the figures in Table 9, 16⅔-cycles locomotives weigh only about half as much as d.c. locomotives.

Conclusion

The most economic system for an electrification may be estimated approximately from the traffic density, or—in electrical terms—the linear density of annual energy consumption. Detailed calculations covering capital costs and annual operating costs are required before making a final decision.

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Gesamtbericht, Weltkraftkonferenz, Teiltagung Wien, 1938

* Parodi, H., & Leclerc du Sablon, "Electrification des Chemins de fer."

† New Zealand Railways Statement, 1948.

‡ S. A. Vincze: "The present state of main-line electrification," "N.Z. Engineering," April 10, 1948, and references quoted therein.

§ Ofverholm H.: Railway Electrification in Sweden. ASEA Publ. 7103E, 1946.

‖ S. A. Vincze: Report on single-phase 50-cycle electrification. (Not published)

Victorian Railways Suburban Stock

Experimental suburban trailer coach, with 4-ft. 5½-in. sliding doors, on Melbourne electric services, Victorian Railways

Overhead Line Equipment Inspection Vehicle

Diesel-driven units for carrying out maintenance work at low speed on the Eastern Region

TWO diesel-driven vehicles of a special design have recently been completed and delivered to the Eastern Region of British Railways by the Drewry Car Co. Ltd. for inspection and maintenance work on the overhead line equipment of the Liverpool Street - Shenfield and the Manchester - Sheffield electrification schemes.

The vehicles will be used mainly when the 1,500-V. current is off, and, to allow of thorough inspection of the overhead line equipment, the vehicles can travel at the low speed of 1½ m.p.h. Windows set at 45 deg., and with windscreen wipers, are provided at each end, so that inspection can also be carried out from the interior of the vehicle, while universally mounted searchlights allow of light being directed on any part of the overhead equipment.

Floodlights are carried and can be secured to any convenient point. Light extending ladders are secured to the vehicle exterior and are available for reaching any point outside the range of the tower.

A hydraulically operated tower is housed in a well in the vehicle body, and can be raised to any height convenient for working on, or examining, the overhead line equipment. The raising and lowering of the tower is controlled by push-button switches from its platform, and the vehicles can run while the tower is being raised or lowered as necessitated by the height from rail level of the conductor. Spotlights can be plugged into sockets on the tower platform and fixed on the platform handrails, which fold down on to the platform when not in use. The roofs are flat, and the whole of the space not occupied by the tower is boarded for use as a working platform.

The appearance of the vehicle is shown by the photograph reproduced on this page, which shows the tower raised and the platform handrails in position, access to the platform being by the extending ladder attached to the tower.

Equipment of the Vehicle

The interior provides space for up to eight men including the driver. A work bench fitted with vices and with racks below for tools and stores is provided. A large locker contains bulky stores and equipment, and rails are mounted on the tower well to carry chain blocks. The photographs reproduced on page 492 show two views of the vehicle interior.

The general layout is as shown by the arrangement drawings on pages 490 and 491. The underframe is constructed of steel channels and plates. The wheels are of rolled steel 2 ft. 6 in. dia. and Hoffmann roller bearing axleboxes are used. The Westinghouse straight air brake is fitted, and applies two blocks per wheel through rigging of the clasp brake type. The hand brake which is also fitted can be released or applied when necessary from outside the vehicle when the body doors are locked. The body is of steel construction, lined with timber to waist-rail level, with the interior of the roof cork sprayed to guard against condensation.

The Power Unit

The engine is the Gardner 4 LW four-cylinder type developing 68 b.h.p. at 1,700 r.p.m. Electric starting is provided and starting by hand is available in case of emergency. A traction type Vulcan-Sinclair hydraulic coupling is fitted to the engine flywheel. The change-speed gearbox is of the Wilson-Drewry 4-speed epicyclic type, giving maximum speeds in either direction of running of 5·6, 9·8, 14·8, and 23·1 m.p.h., though, as previously mentioned, the vehicles can run at as low a speed of 1½ m.p.h. The reverse and reduction unit is of the bevel type with final drive by two Morse chains to sprockets on the driving axle.

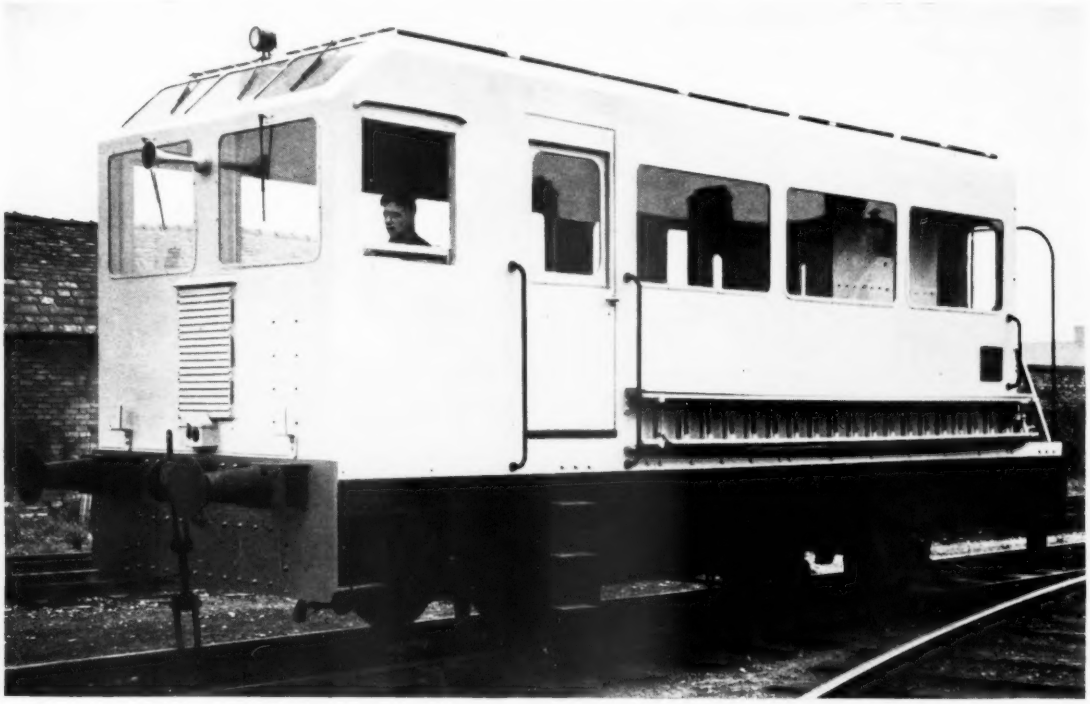
The vehicles can be started from, and driven from, either end, means being provided for isolating the gear change and reverse controls at the non-operative end. The throttle is of the spring-loaded type and incorporates a deadman device so that in the event of incapacity of the driver the throttle is released and an emergency brake application is made. Gear changing and reversing are effected

Overhead maintenance vehicle with two-end drive, showing tower raised and platform handrails in position

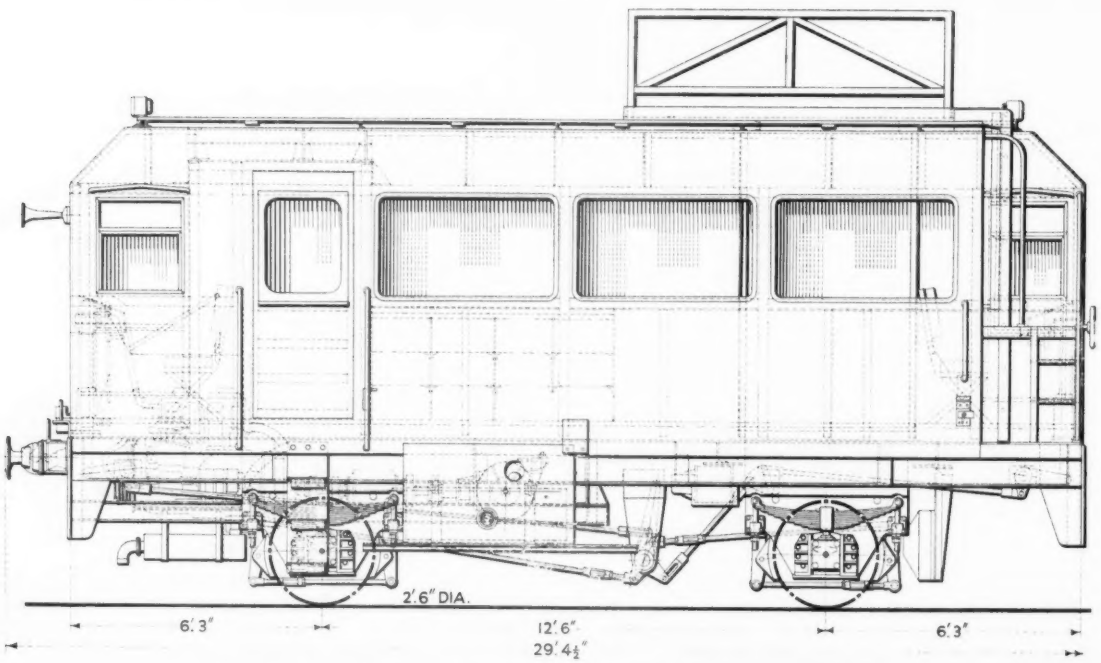
pneumatically and the controls are mechanically interlocked so that reversing can be effected only when the gear change control is in the neutral position.

The driver's brake valve is of the self-lapping type. A hand wheel for the screw brake is provided adjacent to each driving position. The pneuphonic horns can be operated by hand or by foot treadle. Valves for the air-operated windscreen wipers for drivers and observation windows are at the driving positions with the wiper controls conveniently placed at the windows concerned.

A duplex air-pressure gauge, engine oil pressure warning light, and engine oil pressure gauge are fitted. The control switch for the hydraulic pump clutch is placed on the control desk at the engine end only. Special care has been taken to group the controls compactly for ease of driving and at the same time allowing the maximum of space for inspection



Engine end of Drewry diesel-driven overhead line inspection and maintenance vehicle



General arrangement and principal dimensions of maintenance vehicle

personnel. A sliding seat with folding back rest is provided for the driver at each control position.

Two separate 24-volt electric circuits are provided, with a changeover switch to enable either battery to be connected to each circuit. One C.A.V. dynamo serves each circuit; the Exide batteries are each of 185 amp. hr. capacity. The two circuits are provided with the intention that one shall cover control, interior lighting, and engine starting, with the second taking care of outside lighting. An ammeter is provided in each circuit. The change-over switch, with the ammeters and fuses, are grouped on a panel above the battery container. Four Duriston roof fittings are provided for interior lighting with two Mek-Elek fittings to give concentrated light on work at the bench.

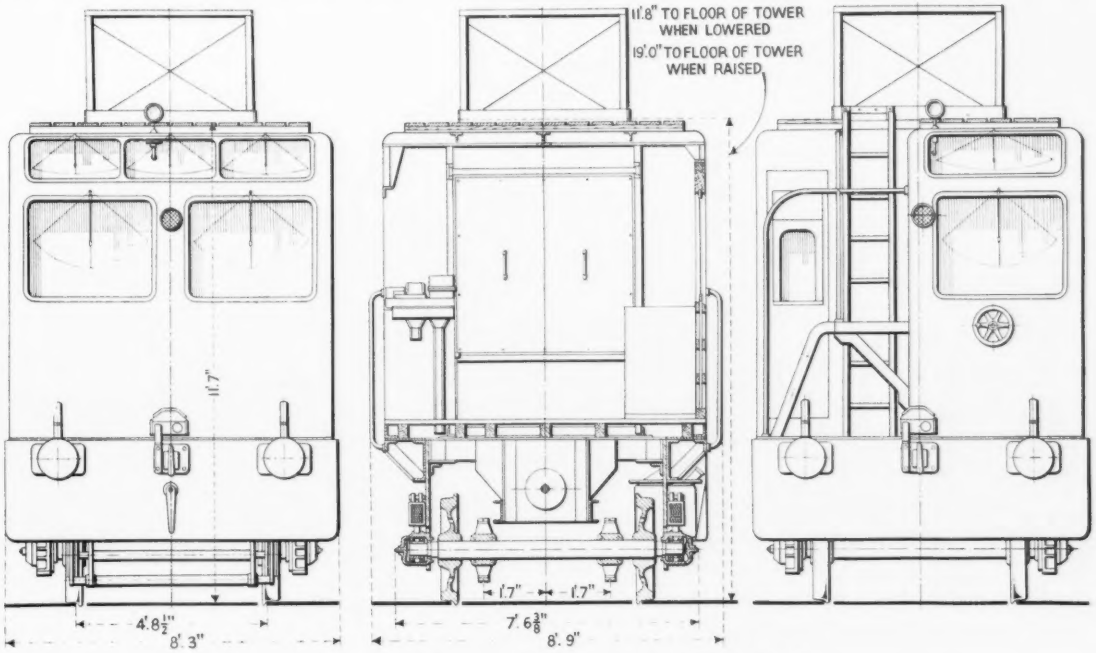
The elevating tower is of the two-stage telescopic type constructed of hardwood members suitably braced. The fixed platform, 8 ft. long by 4 ft. 2 in. wide, has a minimum floor height of 11 ft. 8 in. and a maximum floor height of 19 ft. from rail level. The platform is enclosed by handrails which fold inwards within the loading gauge when not in use.

The elevating gear consists of a hydraulic ram of the telescopic type, oil pump and reservoir, solenoid operated control valve, the necessary pipe lines, and push-button switches mounted on the tower platform. Enclosed cable winders below floor level maintain tension on the 24-volt control cables and on the lighting cables to the sockets on the platform.

A dog clutch, actuated by diaphragm cylinders operated by electro-pneumatic valves through a switch mounted on the control desk at the engine end, controls the engagement and disengagement of the hydraulic pump. When required to remain stationary for any length of time at any elevation the engine can be stopped, and is started when further adjustments in height are required.

The design of the vehicles was initiated under the supervision of the Chief Electrical Engineer of the former L.N.E.R. in conjunction with the Chief Mechanical Engineer, and since nationalisation has been completed under British Railways supervision.

The body and underframe portion was manufactured at the works of E. E. Baguley Limited, Burton-on-Trent, with whom the Drewry Car Company is associated.



Front and rear elevations and cross-section of vehicle

SCOTTISH REGION STATION CLOSING.—British Railways, Scottish Region, announces that as from December 4, 1950, the passenger service will be withdrawn from Mormond Halt on the Maud Junction-Fraserburgh line, Aberdeenshire, except that a modified service for passengers only will continue to operate on Saturdays. As from the same date Mormond Halt will cease to deal with livestock traffic and traffic previously handled there will be dealt with at Strichen.

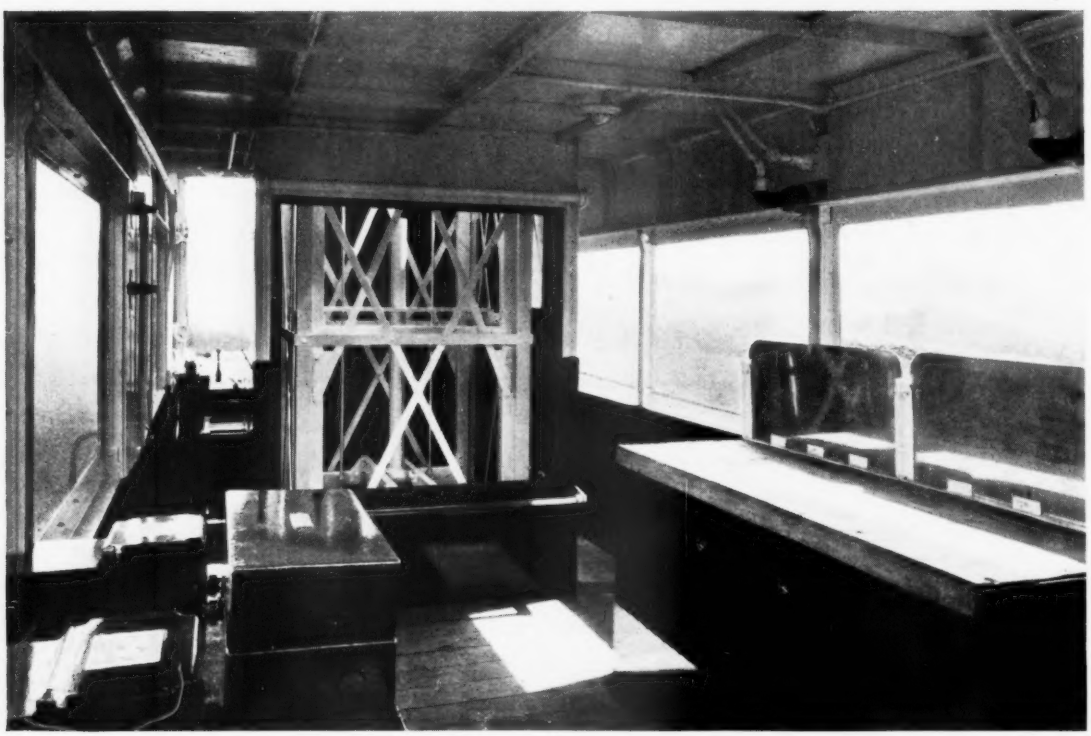
INTERNATIONAL WELDING CONGRESS.—An International Welding Congress is meeting in London and Oxford from July 14-21 next year. The congress will include the annual meeting of the International Institute of Welding and its various commissions, and is being sponsored by the five British member societies, namely, the Institute of Welding, the British Welding Research Association, the British Acetylene Association, the Welding Sections of the British Electrical & Allied Manufacturers' Association, and the Sheet & Strip Metal Users' Technical Association. The President of the reception committee is Sir William Larke. The Secretary of the congress is the Secretary-General of the International Institute of Welding, Mr. G. Parsloe, and the office of the organising committee is at 2, Buckingham Palace Gardens, Buckingham Palace Road, London, S.W.1.

INSTITUTE OF TRANSPORT TORQUAY CONGRESS.—The Council of the Institute of Transport is proceeding with arrangements for a Congress to be held at Torquay from June 13 to June 15, 1951. To advise on a suitable programme and to assist generally in making the arrangements, the Council has appointed a Congress Committee, consisting of the following members: Messrs. A. J. White, Chairman; C. H. Preece, Honorary Secretary; D. H. Hawkeswood; C. Jackson; D. R. Lamb; L. J. Lean; B. V. Smith; W. Y. Smith-Saville. The Committee has selected the Imperial Hotel for the headquarters of the Congress, and is preparing a programme of technical and other visits. Two papers will be presented for discussion, one on Wednesday morning and one on Thursday morning; Sir William Wood and Mr. David Renton have accepted invitations to deliver the papers.

REDUCED CHARGES FOR PERAMBULATORS ACCOMPANYING PASSENGERS.—The Railway Executive announces that as from December 1, 1950, the present minimum charge of 11d. for conveyance of accompanied mailcarts and perambulators unfolded will be reduced to 6d. The new rates will be 6d. for single journeys not exceeding 5 miles and 11d. for single journeys of from 6 to 10 miles. Passengers buying return railway tickets will be able to obtain return tickets for the mailcarts and perambulators at the single rate.

Overhead Line Equipment Inspection Vehicle

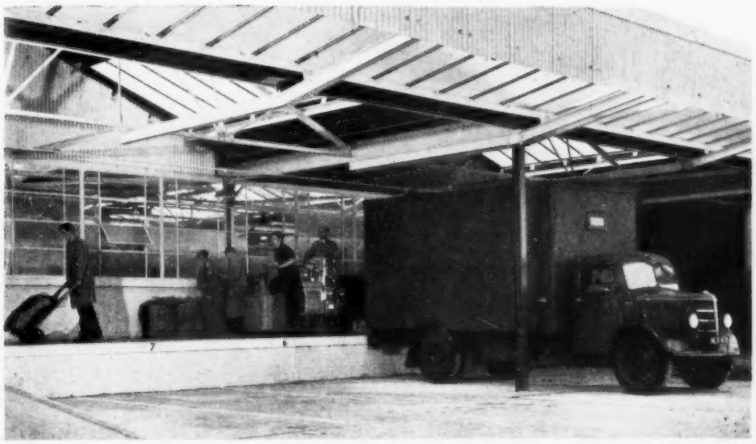
Vehicle interior looking towards the engine end



Showing the tower structure in the lowered position with the detachable panel removed

London Transport Food Production Centre

Preparation and distribution of food for 90 staff canteens in South London



Unloading and despatch bays, showing specially-fitted van and electric truck

ON October 23, Lord Latham, Chairman of the London Transport Executive, opened a food production centre for London Transport at Progress Way, Croydon. It is housed in a modern, single-storey factory used during the war for manufacturing aircraft parts. The cost of the building was £70,000. Its conversion cost £35,000, and equipment another £30,000.

Under the most hygienic conditions, scientifically-controlled production by a skilled staff using modern plant ensures a uniformly high standard of quality at the 90 canteens in the southern half of the Greater London area to be supplied from Croydon.

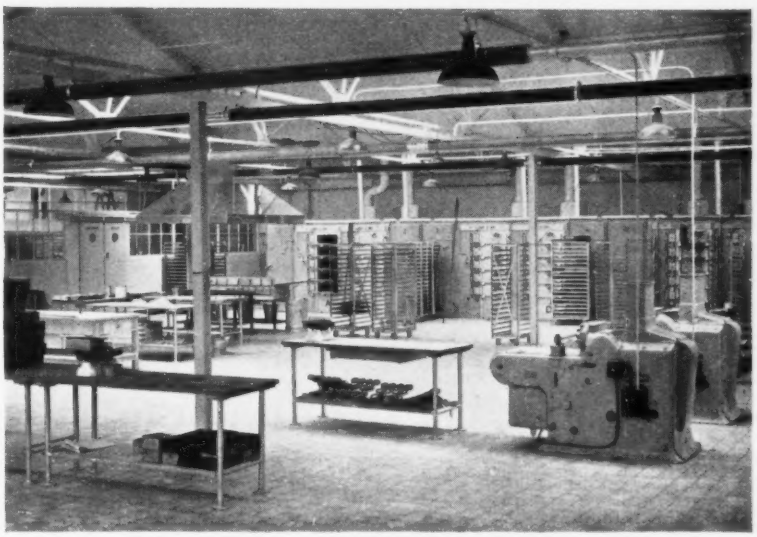
The project originated in L.P.T.B. days, but it fell to the London Transport Executive to sanction it in 1948. Centralisation at Croydon will relieve congestion in individual canteen kitchens, improve staff conditions, and at the same time permit better supervision of meal service and amenities by the canteen management.

In the bakery 100,000 cakes, pastries, bread rolls, and similar items are mass-produced daily by the latest methods. The butchery has a weekly production of 16,000 lb. of jointed meat, 5,000 lb. of sausages and 2,000 lb. of hams and other cooked meats; its cold rooms have a storage capacity of 30,000 lb. of meat and 12,000 lb. of fish. In the dry goods store some £8,000 worth of provisions and groceries are received and issued to canteens weekly.

All bulk goods are moved by electric trucks equipped with hydraulic lift platforms. Carcase meat is conveyed from unloading bays to cold rooms on an overhead rail and on its way is weighed by a built-in weighing machine.

Unloading and Despatch Bays

There are four unloading and eight despatch bays; all are under cover and can be used simultaneously. Eight specially-fitted delivery vans distribute the products to the canteens. They are equipped with an insulated front compartment for meat and fish, and with the rear compartment fitted with racks for cake trays, vegetables, and other dry goods. A van is able to deliver to twelve canteens a trip. The need for checking has been minimised by the use of sealed stainless-steel containers in transit. A canteen and rest rooms, showers, and other amenities, have been provided for the 80 members of the staff of the centre.



A section of the bakery

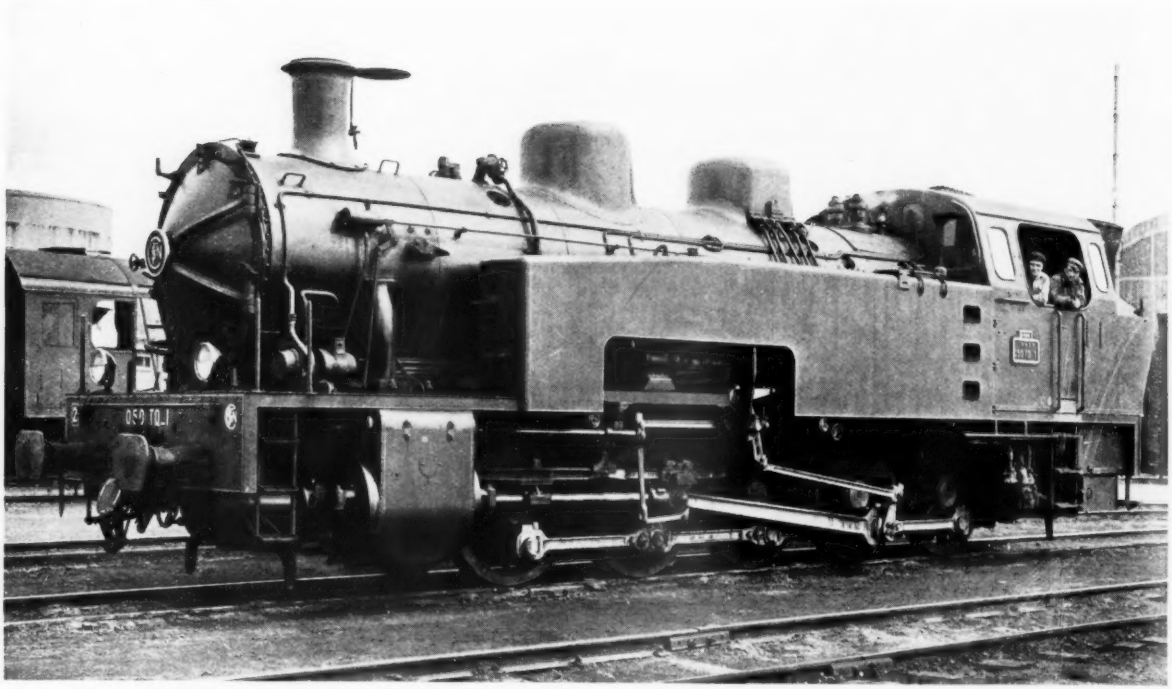
MIDLAND RAILWAY COMPANY OF WESTERN AUSTRALIA.—The offices of the Midland Railway Company of Western Australia are now at 117, Old Broad Street, London, E.C.2. The telephone number is London Wall 1750.

SCOTTISH SOCIETY OF STUDENTS OF THE LOCOMOTIVE.—At a general meeting of the Scottish Society of Students of the Locomotive, held on November 3 at 302, Buchanan Street, Glasgow, C.2, Mr. Hugh Minilly read a paper on "Locomotive Valve Gears." After giving a short history of the development of valve gears, Mr. Minilly dealt comprehensively with Stephenson and Walschaerts patterns, supplementing his descriptions by drawings and sketches.

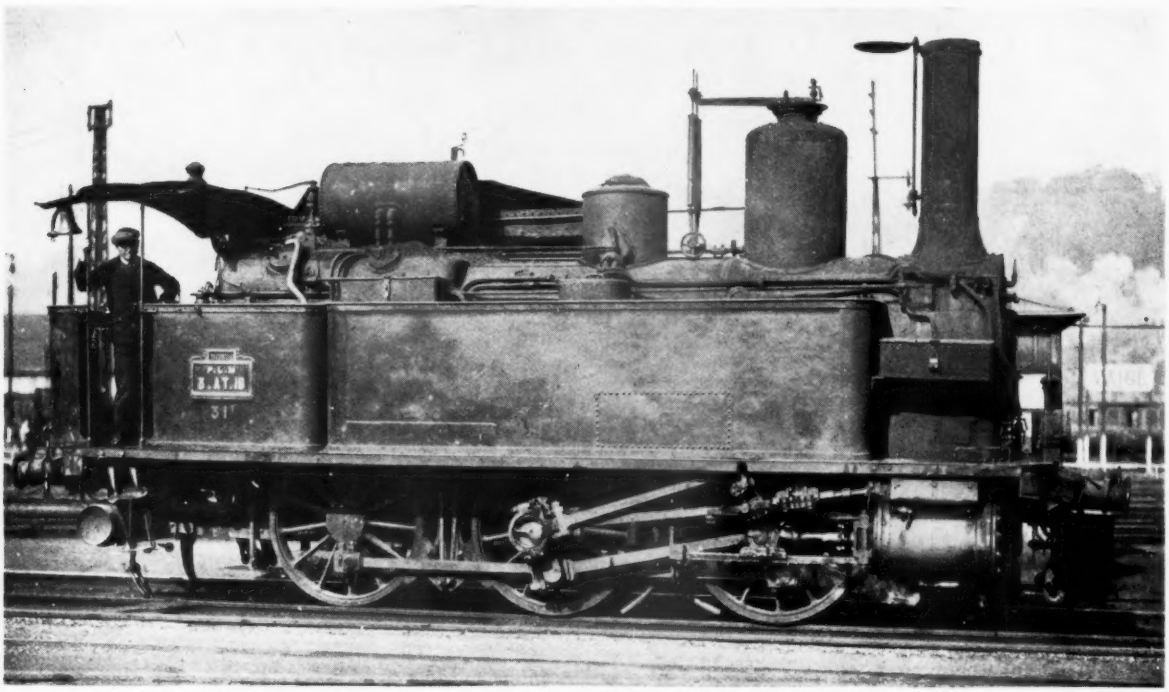
METROVICK LONG-SERVICE EMPLOYEES.—More than 1,000 members of the Long Service Association of the Metropolitan-Vickers Electrical Co. Ltd. attended the annual social at Trafford Park Works on October 24. The qualification for membership is 29 years of service for men, and 26 years of service for women, and of the latter 162 are members. The roll of 2,024 includes 900 with over 35 years of service and 520 honorary or retired members. Sir George E. Bailey, Chairman, presided, expressing his pride in the Association. During the evening he discussed his desire to make retired members feel that they still had a stake in the firm. Mr. E. W. Steele, Director & General Manager of Works, outlined the constitution of the Association and its relation to the company.

French Railway Motive Power

(See also our issues of September 22 and October 6 & 13)



One of the 0-10-0T *heavy shunting engines built after the war to overcome the motive power shortage. Note the two slidebars " in tandem " and the corresponding length of the piston rod and intermediate valve spindle*



A veteran at Lyon-Vaise which retained its P.L.M. number plate long after the formation of the S.N.C.F. Shunting throughout France is still undertaken by numerous old 0-6-0T *and* 0-8-0T *engines with outside link motion*

Photos] *[G. F. Fenino*

RAILWAY NEWS SECTION

PERSONAL

Mr. K. A. Fraser, Deputy Chief Civil Engineer, New South Wales Government Railways, has been appointed Chief Civil Engineer.

Mr. F. H. Sedgwick, Accountant, Eastern and North Eastern Regions, British Railways, who has retired, joined the Great Central Railway in the Accountant's Office at Manchester and received his preliminary training in the Expenditure and Stores Accounting Sections. He was appointed Chief Clerk of the Stores Accounting Section in 1919, and was placed in charge of both the Expenditure and Stores Accounting Sections in 1927. He was transferred to London in 1929 to take charge of the accounts of the road transport, docks, steamboats and other ancillary businesses of the L.N.E.R. Southern Area. Mr. Sedgwick was appointed Assistant Book Keeper in the Office of the Chief Accountant in 1932, and in 1935 he became Expenditure Assistant to the Chief Accountant. He was subsequently appointed Chief Book Keeper in 1936, Assistant to Chief Accountant in 1942, and Assistant Accountant in 1947. In the re-organisation on January 1, 1948, he was appointed Accountant, Eastern and North Eastern Regions. Mr. Sedgwick was, for many years, a Member of the Sheffield and Halifax Joint Omnibus Committees and was an Investigator of railway companies' accounts during the Government control of the railways in the 1914-1918 war. From 1917 to 1919 he was loaned to the War Department to investigate and report on the system of accounting that was then in operation at the military camp railways of England. At a recent meeting of Officers of the Eastern Region, Mr. C. K. Bird, Chief Regional Officer, presented a sectional bookcase to Mr. Sedgwick as a parting gift and referred to Mr. Sedgwick's invaluable services to the former railway companies and to the Railway Executive. Mr. Bird's remarks were endorsed by various other Officers present at the function and Mr. Sedgwick replied suitably.

Mr. F. H. Sedgwick

Accountant, Eastern and North Eastern Regions, British Railways, 1948-50

Mr. T. R. Hawkes

Appointed Accountant, Eastern and North Eastern Regions, British Railways

Mr. W. J. Moffatt, Acting Director General, Iraqi State Railways, has been appointed Director General.

Mr. J. W. J. Webb, Expenditure Assistant to the Chief Financial Officer, Railway Executive, has been appointed Assistant Chief Financial Officer.

Mr. C. G. Page, Secretary to the London Transport Executive has retired and has been succeeded by Mr. R. M. Robbins, formerly Secretary to the Chairman.

Mr. T. R. Hawkes, Assistant Accountant, Eastern and North Eastern Regions, who has been appointed Accountant, Eastern and North Eastern Regions, British Railways, commenced his railway service in 1910 in the Locomotive Accountant's Department of the Great Eastern Railway. During the first World war he served with the Royal Engineers, and following the amalgamation of the railways in 1923 he took a prominent part in the valuation of L.N.E.R. rolling stock for Standard Revenue purposes. In 1927 he took up a special appointment in the Office of the Chief Accountant and was responsible for the expansion and development of mechanisation throughout the Department. After a period as Statistical & Staff Assistant to the Chief Mechanical Engineer he was appointed Locomotive Accountant (Scottish Area), Cowlairs, in 1939, and while holding this position became Deputy Commander of the 8th City of Glasgow battalion of the Home Guard. He was appointed Assistant to the Chief Accountant in 1942, and became Senior Assistant to the Chief Accountant in 1947. At nationalisation Mr. Hawkes was appointed Assistant Accountant, Eastern and North Eastern Regions. He is a Director of Hebble Motor Services Limited, and is a Member of the Sheffield, Halifax, and Huddersfield Joint Omnibus Committees.

Mr. H. J. Williams, Works Manager, Carriage & Wagon Department, Eastern Region, Gorton, has retired.

Mr. B. C. Gardner, President of the Bank of Montreal, has been appointed a Director of the Canadian Pacific Railway in succession to the late Mr. Howard P. Robinson.

Mr. G. W. O. Moore

Appointed Financial Adviser & Chief Accounts Officer, South Indian Railway

Mr. D. McIntosh

Mechanical Engineer, Pretoria, South African Railways, 1942-50

Mr. E. H. Wilson

Mechanical Engineer, Durban, South African Railways, 1939-50

Mr. G. W. O. Moore, Deputy Chief Accounts Officer, South Indian Railway, who, as recorded in our October 20 & 27 issue, has been appointed Financial Adviser & Chief Accounts Officer, was born in 1901 and after completing his education at Gresham's School, Holt, Norfolk, was articled to Mellors, Basden & Mellors, Chartered Accountants, from 1920 to 1925. He joined Deloitte, Plender, Griffiths & Company in 1925 and served with that firm in South America until 1934. Mr Moore joined the South Indian Railway as Assistant Auditor in 1935. During the second World war he served in the forces from 1941 to 1943 and attained the rank of Major. Mr. Moore was appointed Deputy Chief Accounts Officer in 1946.

Mr. D. McIntosh, A.M.I.Mech.E., M.I.Loco.E., Mechanical Engineer, Pretoria, South African Railways, who has retired, entered the service of the Cape Government Railway in 1908. On completion of his pupilage he entered the Mechanical Engineer's Drawing Office, and became Draughtsman in the Chief Mechanical Engineer's office, Pretoria, in 1915. He went overseas to join the Royal Engineers in 1916 and subsequently obtained a commission. Following his return from military service Mr. McIntosh rejoined the Chief Mechanical Engineer's office, Pretoria, and in 1927 was appointed Draughtsman-in-Charge, Mechanical Workshops, Bloemfontein. He became Assistant Engineer, Salt River Workshops, in 1928, and Assistant Mechanical Engineer, Pretoria, in charge of the Mechanical Workshops, Germiston, in 1931. The following year Mr. McIntosh was appointed Locomotive Superintendent & Operating Assistant, Windhoek, South-West Africa, and he returned to Pretoria in 1934 as Production Engineer on the staff of the Chief Mechanical Engineer. In 1937 he was selected by the Administration as a member of the Overseas Investigation Committee, which visited England, America, Canada, and the Continent to study railway methods. He became Locomotive Superintendent, Durban, in 1939 and a year later was appointed Chief Superintendent (Motive Power) on the General Manager's staff at Johannesburg. Mr. McIntosh was appointed Mechanical Engineer, Pretoria, in 1942.

Mr. E. H. Wilson, Mechanical Engineer, Durban, South African Railways, who has retired, was born in England and joined the Central South African Railways at Pretoria in 1905 as a premium apprentice. He was selected by the Administration to attend a course of engineering at Witwatersrand University College in 1910 and was selected as a draughtsman in 1913. Between May, 1918, and April of the following year, Mr. Wilson was on

Mr. W. N. Connah

Regional Treasurer, Western Region, 1948-50

Mr. J. D. Swain

Appointed Regional Treasurer, Western Region

Mr. J. W. Terry

Appointed Stores Superintendent Southern Region

loan to the Chief Civil Engineer's Department, Johannesburg, and in 1925 was put in charge of the Mechanical Workshops, Drawing Office, Bloemfontein. He went to Durban in 1928 as Assistant to the Mechanical Engineer and in 1931 took up the appointment of Assistant Superintendent, Mechanical, at Windhoek, where, the following year he became Locomotive Superintendent. Some months later Mr. Wilson was appointed Mechanical Engineer, Pietermaritzburg, and subsequently occupied a similar position at Bloemfontein, before going to Cape Town as Locomotive Superintendent in 1937. He went overseas in 1936 to investigate various matters on behalf of the Mechanical Department. Mr. Wilson was appointed Locomotive Superintendent, Durban, in May, 1939, and in September of that year became Mechanical Engineer, Durban.

Mr. F. W. Wheddon, District Passenger Manager, Manchester, British Railways, Eastern Region, has retired.

Mr. W. N. Connah, Regional Treasurer, Western Region, British Railways, who, as recorded in our November 24 issue, has retired, joined the Great Western Railway in the Registration Office in 1905. After becoming a member of the Secretary's personal staff in 1913, he served in the 1914-18 war and held a commission. He was appointed Chief Clerk in 1942, and Regional Treasurer in January, 1948. In past years he was Secretary of the Fishguard & Rosslare Railways & Harbours Company and the G.W.R. Dining Club. More recently he has acted as Treasurer of the G.W.R. Provident Society and the G.W.R. (London) Golfing Society, and as Chairman of the G.W.R. Rifle Club. Mr. W. N. Connah was entertained by the Chief Officers of the Western Region to a farewell luncheon in the Great Western Royal Hotel, Paddington, on November 10, the day of his retirement. Mr. K. W. C. Grand, Chief Regional Officer, who presided, presented Mr. Connah with a reproduction of an early English Bracket Clock as a token of the esteem and regard in which he was held by all his colleagues, and expressed the hope that he would enjoy many happy years in retirement. Mr. C. R. Dashwood, Chief Accountant, Mr. F. R. E. Davis, former Secretary of the Great Western Railway, and Mr. J. D. Swain, Regional Treasurer, also paid tributes to the retiring Treasurer.

Mr. J. D. Swain, Head of the Banking Section, Western Regional Treasurer's Office, Paddington, British Railways, who, as recorded in our November 24 issue, has been appointed Regional Treasurer, Western Region, started his career with the Great Western Railway in 1919 in the Office of the Superintendent of the Line. In 1922 he joined the Secretary's Office and in 1934 took charge of the Banking, Investments & Insurance Section. Mr. Swain was appointed Head of the Banking Section of the Western Regional Treasurer's office on nationalisation in 1948.

Mr. J. W. Terry, Assistant Stores Superintendent, Southern Region, who has been Acting Stores Superintendent since January 1 and, as recorded in our September 22 issue, has been appointed Stores Superintendent, Southern Region, was educated at the Whitgift Middle School, Croydon, and joined the L.B.S.C.R. in 1908 as a junior clerk in the Storekeeper's Office at New Cross. He volunteered for military service on the outbreak of the first World war, in which he gained a commission and was awarded the M.C. He subsequently returned to the Storekeeper's Department and in 1923 was appointed to the Purchasing and then to the Sales Section of the Southern Railway at Waterloo. Mr. Terry became Chief of the Purchasing Section in 1940, Indoor Assistant to the Stores Superintendent in 1945, Assistant Stores Superintendent in 1947, and Acting Stores Superintendent in January this year.

Mr. J. T. Cox, Chief Carriage & Wagon Outdoor Assistant to the Chief Mechanical Engineer, London Midland Region, has retired.

We regret to record the death on November 23 at the age of 61, of Sir Frederick Bain, M.C., LL.D., Deputy Chairman of Imperial Chemical Industries Limited, and a former President of the Federation of British Industries.

The Hon. Sir Edward Cadogan, K.B.E., C.B., formerly Deputy-Chairman of the Great Western Railway Company, has accepted the Presidency of the Railway Benevolent Institution for 1951 and Mr. John Elliot, Chief Regional Officer, London Midland Region, has agreed to become Chairman of the board for the same year.

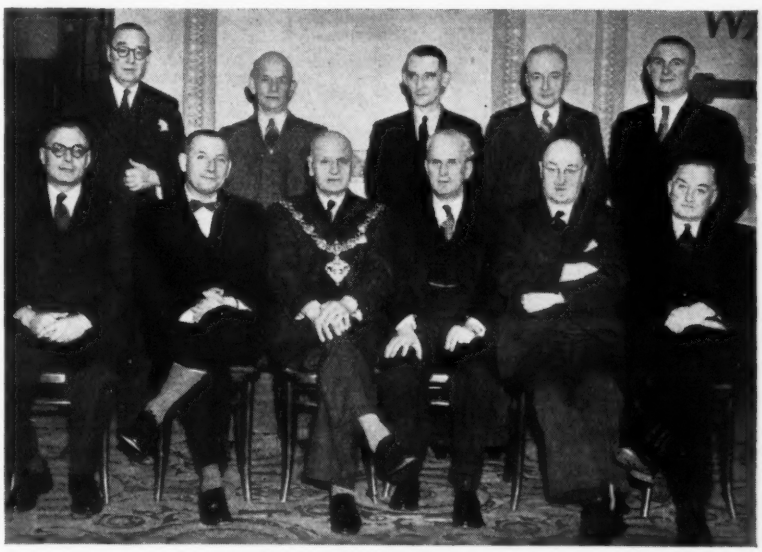
Queen Juliana of the Netherlands has bestowed on Mr. S. W. Smart, O.B.E., Superintendent of Operation, Southern Region, British Railways, the award of Officer of the Orange Nassau, on the occasion of the state visit of Her Majesty and His Royal Highness the Prince of the Netherlands. Mr. T. W. D. Abell, Divisional Marine Manager, Dover, has received the award of Chevalier of the Order of the Orange Nassau, and Mr. A. Huckle, Traffic Assistant to the Divisional Marine Manager, Dover, has received the Gold Medal of the Orange Nassau.

On November 15 Mr. J. C. L. Train, Member Railway Executive, made a presentation to Mr. D. R. Bennett, O.B.E., to mark his retirement as New-Works Assistant, Railway Executive. Mr. Bennett began his service as an Assistant in the District Engineer's office at Eastleigh in 1902, and after the 1914-18 war, during which he was awarded the O.B.E., he was retained by the military for service in the Inter-allied Railway Commission to assist in setting up an organiastion for taking over German Railways in the Occupation Zones. In 1930 he recommenced railway duty in the Divisional Engineer's Office, Brighton, Southern Railway and in 1937 was appointed Engineering Assistant, Waterloo. In 1948 Mr. Bennett was appointed Technical Assistant (New Works) on Mr. Train's staff at the Railway Executive. Among those who spoke at the meeting on November 15 were the following officers of the Railway Executive and others:—

Messrs. A. Dean, Chief Officer, Engineering (Works); L. J. M. Knotts, Assistant Signals; A. Endicott, Chief Estate & Rating Surveyor; F. F. C. Curtis, Architect; R. C. Rattray, Executive Officer, Engineering (Development); J. S. Campbell, Assistant, Bridges; W. Dunning, Statistical Assistant, J. A. R. Turner; R. R. Foxlee, Assistant New Works Engineer, Southern Region; H. Janes, New Works Section, Southern Region; F. J. Boughton, Divisional Engineer's Office, Brighton, Southern Region; R. L. McIlmoyle, New Works Engineer, London Midland Region; M. B. Macrae, New Works Office, Eastern Region.

A long-established function, which originated on the Lancashire & Yorkshire Railway, was revived on November 18, when officers and staff of the London Midland Region Central Operating Division held a dinner in the Baronial Hall, Winter Gardens, Blackpool. The dinner was the first to be held since the war.

L.M.R. Central Operating Division Dinner



A group at the London Midland Region Central Operating Division dinner at Blackpool (see paragraph above)

Back-row (left to right): Messrs. N. Powell, C. R. Vernon, W. Richardson, J. Newall, and F. L. Meadows, members of the Divisional Operating Superintendent's Department, Manchester. *Front-row:* Messrs. C. J. Vidal, District Operating Superintendent, Preston; T. J. Jones, Town Clerk, Blackpool; Alderman R. W. Marshall, Mayor of Blackpool; Messrs. R. O. Banister, Central Divisional Operating Superintendent; W. Foster, Director of Publicity, Blackpool; A. Wood, Assistant Divisional Operating Superintendent

Photo] [*"Blackpool Gazette & Herald"*

British Transport Commission Statistics (Period No. 10)

Summary of the principal statistics for the four-week period ending October 8

STAFF

	B.T.C. Head Office	British Railways	London Transport	British Road Services (Road Haulage)	Road Passenger (Provincial & Scottish)	Hotels & Catering	Ships & Marine	Inland Waterways	Docks, Harbours, Wharves	Railway Clearing House	Commercial Advertisement	Legal	Films	Total
Number ...	237	614,901	98,501	74,957	60,372	18,381	6,242	5,056	19,341	643	2,011	276	29	899,137
Inc. or dec.	+ 5	− 3,012	− 216	+ 66	+ 1,138	− 449	− 249	− 18	− 346	− 3	+ 4	− 2	+ 3	− 5,355

BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

	Four weeks (Period No. 10)		Aggregate for 40 weeks	
	To Oct. 8, 1950	To Oct. 9, 1949	1950	1949
	£000	£000	£000	£000
British Railways				
Passengers	8,029	8,911	85,711	92,103
Parcels, etc., by passenger train	2,611	2,285	23,442	22,299
Merchandise	6,993	6,199	64,642	61,352
Minerals	2,584	2,310	24,358	22,498
Coal & coke	6,608	5,254	58,179	51,757
Livestock	256	162	1,167	940
	27,081	25,121	257,499	250,919
British Railways — C. & D. and other road services	792	705	7,304	6,793
Ships and Vessels	975	943	8,937	8,788
London Transport				
Railways	1,147	1,106	10,961	11,032
Buses & coaches	2,292	2,505	23,737	24,331
Trams & trolleybuses	806	865	8,129	8,439
	4,245	4,476	42,827	43,802
British Road Services — Freight charges, etc.	5,356	3,945	46,708	23,459
Road Passenger Transport	3,156	2,965	30,072	28,017
Docks, Harbours & Wharves	950	897	9,138	8,515
Inland Waterways	131	121	1,244	1,178
Hotels & Catering	1,203	1,093	11,228	10,295

LONDON TRANSPORT

	Passenger journeys	Inc. or dec. per cent. over 1949	Car miles	Inc. or dec. per cent. over 1949
	000		000	
Railways	50,390	− 2·5	17,826	− 1·1
Buses & coaches	199,887	− 7·8	23,567	− 2·5
Trams & trolleybuses	85,717	− 8·1	8,324	− 3·8
Total	335,994	− 6·5	49,717	− 2·2

INLAND WATERWAYS
Tonnage of traffic and ton miles

	Tonnage	Inc. or dec. per cent. over 1949	Ton miles	Inc. or dec. per cent. over 1949
	000		000	
Coal, coke, patent fuel & peat	444	+ 4·2	6,479	− 5·0
Liquids in bulk	146	+ 10·3	3,865	+ 21·8
General merchandise	310	+ 2·4	5,167	+ 5·8
Total	900	+ 4·5	15,511	+ 4·3

BRITISH RAILWAYS
Rolling Stock Position

	Operating stock	Number under repair	Available operating stock	Serviceable stock in 1949
Locomotives	19,183	3,505	15,678	15,584
Coaching vehicles	57,630	4,902	52,728	50,791
Freight wagons	1,099,964	95,213	1,004,751	1,001,654

BRITISH RAILWAYS
Passenger Journeys (Month of August, 1950)

Full fares	Monthly returns	Excursions, cheap day, etc.	Other descriptions	Workmen	Season tickets	Total	Inc. or dec. per cent. over 1949
5,158,000	19,183,000	26,733,000	4,726,000	16,788,000	21,096,000	93,684,000	− 1·7

BRITISH RAILWAYS
Freight Tonnage Originating and Estimated Ton-Miles (Period No. 10)

	Minerals	Merchandise	Coal & coke	Livestock	Total	Inc. or dec. per cent. over 1949
	000	000	000	000	000	
Tons originating	4,542	4,109	13,198	146	21,995	+ 0·5
Ton-miles	386,269	539,089*	831,069	—	1,756,427	+ 2·0

* Includes livestock

BRITISH RAILWAYS (Period No. 10)

	Total steam coaching train-miles	Total electric coaching train-miles	Total freight train-miles	Freight train-miles per train engine-hour	Net ton-miles per total engine-hour	Locomotive coal consumption	
						Total tons	Lb. per engine-mile
	15,266,000	3,797,000	11,123,000	8·5	593	1,052,000	60·9
Inc. or dec. per cent. over 1949	− 0·4	+ 3·3	+ 2·8	—	+ 3	+ 1·7	+ 2·1

Staff & Labour Matters

Senior Administrative Staff

The British Transport Officers' Guild announces that jointly with the R.C.A. it has concluded an agreement with the Railway Executive on behalf of officers and senior administrative and technical staff with salaries above £630 and below £1,600 a year, operative from November 1, 1950.

Negotiating machinery established provides *inter alia* for: (*a*) Settlement by negotiation of terms and conditions of employment; (*b*) consideration of measures affecting safety, health, and welfare; (*c*) discussion of matters of mutual interest to the Executive and staff, including efficiency in operation; and (*d*) discussion of any grievances of staff which individuals cannot dispose of after submission through the normal channel. Provision is made for independent approach to the Railway Executive by either the Guild or the R.C.A. on behalf of its members, as well as establishment of a joint committee of the three parties to deal with matters covered by the agreement.

The Railway Executive has informed the Guild that it agrees that matters affecting officers in receipt of £1,600 per annum or above can also be raised informally with the Executive.

The British Transport Officers' Guild is also in touch with the other Executives with a view to concluding similar agreements.

Railway Wages

The Railway Executive has made the following statement:—

"In July and August, 1950, the three railway trade unions (A.S.L.E.F., N.U.R., and R.C.A.) submitted to the Railway Executive claims for increases in salaries and wages ranging between 7½ and 15 per cent. After being declined by the Railway Executive on September 15, they were referred by the unions to the Railway Staff National Council, which accordingly met on November 7.

"Meanwhile, as a result of further consideration of the representations made by the unions and in view of the fact that wage increases had been granted in other major industries and which were in some cases related to the railway industry, the Railway Executive again reviewed the problem. They decided to make an offer which would have regard to the wage increases in other industries and also would assist the railway industry itself to secure staff recruitment and, by various adjustments in the staff arrangements, to improve the efficiency of the industry by the more economical use of manpower.

"Meetings of the Railway Staff National Council were held on November 21 and 22, and no agreement was reached. The way is now open for the unions, if they so desire, to submit their claims for decision by the Railway Staff National Tribunal

Railway Executive Offer

"At the meeting of the Railway Staff National Council on November 7 the Railway Executive made proposals to the railway trade unions in an endeavour to meet the unions demands for wage increases.

"The offer of the Railway Executive provides for minimum rates of 97s. 6d. a week in the provinces and 100s. 6d. a week in London, an increase of 1s. 6d. a week over present minimum rates. Taking into account the increase of 3s. 6d. per week granted in September, 1950, in connection with the improvement in pay of lower-paid railwaymen, the total increase (so far as the minimum rated grades are concerned) would amount to 5s. a week.

"The Executive proposals include grouping together of a number of grades and a reduction in the number of classes within certain grades. This abolition of many intermediate grades would widen the inter-grade margins in a number of instances, thus providing bigger increases on promotion. Broadly speaking, the increases which would be granted under the proposals range from 1s.6d. a week for minimum-rated staff (plus 3s. 6d. as from September, 1950) to 7s. a week in higher grades, while certain staff would get increases beyond the latter figure as a result of the re-grouping of grades.

"In view of the Railway Executive's difficult financial position, the offer to improve the level of wages and salaries is conditional upon the utmost endeavour being made by all concerned to secure the most efficient and economical working. With this object in view the unions have been asked to accept the following principles, which aim at securing a measure of economy in manpower, and to render assistance where necessary to implement them:

Manpower Economy Measures

"1. The practice of sending messengers to call trainmen from their homes for rostered turns will be abolished as from April 2, 1951. Restrictions as to place of residence which have existed hitherto will be removed.

2. A formula already agreed in respect of employment of vanguards in the London Area shall be operated as from January 1, 1951.

3. Lodging turns of duty for trainmen shall be increased where economy will accrue, provided that hostel accommodation is available. No turn of duty on a lodging basis will be introduced where there is no booked return working and men will not be expected to lodge at places less than 50 miles from their home depots. Any redundancy arising from introduction of a lodging turn or turns will not be declared until three months have elapsed from the date of introduction of the lodging turn or turns, to enable the redundancy to be absorbed, if possible, at the depot in question.

4. To avoid unproductive time and waste of manpower, overtime within reasonable limits shall be worked where necessary to complete a turn of duty. Full effect shall be given to the provision in the National Agreement for the rostering of staff up to nine hours.

5. The Railway Executive will be prepared to extend the application of the five-day week principle, where this is practicable without an adverse effect upon the service.

"It was emphasised to the unions that the proposals must be considered as a whole, and that if these principles were not accepted, the Railway Executive would not be able to proceed with the offer to increase rates of pay."

Objections to Executive's Conditions

Since the rejection of the Railway Executive offer, the N.U.R. has agreed with the R.C.A. and the A.S.L.E.F. on a joint approach to the Minister of Labour. It is hoped to get the Minister to prevail upon the Railway Executive to withdraw the conditions.

Mr. Hallsworth, who deputised for Mr. Baty, General Secretary of the A.S.L.E.F., at the negotiations, afterwards stated that the conditions introduced principles to which the Society had always been opposed. The A.S.L.E.F. was not satisfied with the Railway Executive offer. Leaders of the R.C.A. and N.U.R. are also opposed to the action of the Railway Executive in imposing conditions on the wages offer.

Mr. W. P. Allen, Member of the Railway Executive, stated on November 22, that the conditions if accepted would bring about increased efficiency and reduced running costs. Without this, the Railway Executive could not afford to pay increases in wages.

Meanwhile, L.M.R. footplatemen are threatening to strike. They will reach a decision within the next fortnight either at branch meetings or by ballot.

Railway Shopmen's Wage Claim

At a meeting of the R.S.N.C. on November 23, the employees' side presented a claim for a substantial pay increase. The workers concerned are members of the N.U.R. and of unions affiliated to the C.S.E.U. The employers' representatives undertook to consider the representations made.

T.U.C. Wages Policy

The T.U.C. General Council on November 22 received the preliminary report of its special economic committee on the Congress resolution to abandon the policy of wage restraint and to urge the Government to introduce statutary control of profits. So far, however, no comprehensive system of control of profits has been suggested.

Parliamentary Notes

Scottish Road Passenger Transport

Mr. A. J. F. MacDonald (Roxburgh & Selkirk—L.) drew attention to problems facing Scottish road passenger transport on the motion for the adjournment of the House of Commons on October 18. The revenues of passenger road transport in Scotland, which was nationalised 90 per cent., were falling and costs rising. All the nationalised organisations had approached the licensing authorities to secure increased fares, but if costs continued to rise, many existing rural bus services would have to be cancelled or curtailed, which would mean that many agricultural workers, deprived of transport, would probably leave the land. There should be a new bus fares structure in Scotland. Equally important, there were many rural areas where it would never pay to run a bus service, but where it was necessary if people were to remain on the land. He suggested a Treasury subsidy of, say, £500,000 a year, to be administered by the B.T.C., or county councils could be assisted up to 80 per cent. of the cost of operating essential but unremunerative services sponsored by them, and run either by private operators or in conjunction with Post Office mail services.

Mr. Alfred Barnes, Minister of Transport, replied that the case for improved transport in this area was not peculiar to it as it applied throughout the country. He could deny in all equity that similar sums should be put up for other areas. He agreed that a new fares structure was necessary. Before they considered a subsidy they should permit the machinery that Parliament had provided to operate. Fares of local bus undertakings were determined by the licensing authorities. The

Minister had not the power to do so; his department came in if the companies who promoted new limitations for fares, or any local authority or any body of citizens, were dissatisfied.

Questions in Parliament

Welfare and Safety on Railways

Mr. J. B. Hynd (Sheffield, Attercliffe—Lab.) on November 9 asked the Minister of Transport when it was proposed to implement the recommendations of the Gower Report insofar as they concerned welfare and safety on the railways.

Mr. Alfred Barnes (Minister of Transport) in a written answer stated: These recommendations are now being examined in consultation with other Departments concerned.

Rates and Fares in the Highlands

Lord Malcolm Douglas-Hamilton (Inverness—C.) on October 23 asked the Minister of Transport whether, pending the publication of the Charges Scheme sent to his department, he would consider an interim measure to ease the burden of high freight and passenger charges which bore very heavily on areas remote from markets, and particularly the Scottish Highlands and Islands.

Mr. Alfred Barnes: No. Any question of reducing the fares and rates to and from particular areas is one for the British Transport Commission and in certain circumstances for the Transport Tribunal.

Railway Questions to Ministers

Captain L. P. S. Orr (South Down—C.) on November 6 asked the Prime Minister to which Minister questions concerning the defence value of any United Kingdom Railway should be addressed.

Mr. C. R. Attlee (Prime Minister): It would be convenient if such questions were addressed to the Minister of Transport, though in some cases other Ministers might appropriately apply.

Mr. David Renton (Huntingdon—Nat. Lib.): Is the Prime Minister certain that the Minister of Transport is competent to answer questions on this particular point, bearing in mind the rules of procedure and the practice which has grown up with regard to questions put to the Minister of Transport about the nationalised railways?

Mr. Attlee: I shall decide that when I see what the questions are like.

Glasgow Transport

Mr. J. McInnes (Glasgow Central—Lab.) on November 6 asked the Minister of Transport, what steps he proposed to take to expedite the report of the Commission presided over by Sir Robert Inglis which for the last two years had been taking evidence in Glasgow.

Mr. Alfred Barnes stated in a written answer: This Committee was set up in August last year. I am informed that its report is likely to be received early in 1951.

Travel Facilities for Foreign Students

Captain M. Bullock (Crosby—C.) on November 20 asked the Minister of Transport whether he would assist the B.T.C. by subsidy or the provision of special vessels or equipment to facilitate the visit to Britain of students and other young persons from Western European countries in 1951.

Mr. Alfred Barnes stated in a written answer: Visits by students and others are already facilitated by cheap party rail fares which will be extended to boat fares. I am not in a position to provide additional vessels or equipment, but I have no reason to think that visitors will be prevented from travelling by any lack of transport for which the Commission is responsible.

Allocations of Steel

Lt.-Colonel M. Lipton (Brixton—Lab.) on November 6 asked the Minister of Supply what steps were being taken to ensure fair allocations to industrial users of rolled steel production.

Mr. Martin Redmayne (Rushcliffe—C.) also asked the Minister of Supply whether he was aware that since August, 1950, stock-holding merchants of steel had been short of supply owing to an extension of delivery to 15 to 18 months from the mills; and what was the reason for that shortage.

Mr. George Strauss (Minister of Supply): All steel, other than sheets and tinplate, was freed from distribution control last May and no allocation to industrial users is now made. Extensive additional buying, following the outbreak of war in Korea and the announcement of the Government's rearmament programme, is causing delay in obtaining supplies.

Lt.-Colonel Lipton: Is the Minister aware that there are a number of firms who are hoarding steel in anticipation of Government orders that may never come their way, and will he put into effect a system of allocation to avoid this abuse, which is already having serious economic consequences on firms not misbehaving in this way?

Mr. Strauss: I do not think that we are justified at the moment in reimposing our steel allocation scheme.

Major Peter Roberts (Sheffield, Heeley—Nat. Lib.): Is not it a fact that certain orders for steel are earmarked for the Minister's Department, and that the firms concerned have not been given conversion orders, with the result that there is steel lying idle at the moment?

Mr. Strauss: I would be grateful if Mr. Roberts would give me the information on which he bases that question.

Live Rail Accidents

Colonel Ralph Clarke (East Grinstead—C.) on October 23 asked the Minister of Transport how many children had been electrocuted in 1949 on live rails, other than those belonging to the London Transport Executive; and what steps were being taken to prevent children getting access to those lines.

Mr. Alfred Barnes stated in a written answer: The answer to the first part of the question is 16 killed and 10 injured during 1949. As regards the second part, information will be found in the annual report of the Chief Inspecting Officer of Railways.

Immingham Dock

Mr. C. Osborne (Louth—C.) on October 23 asked the Minister of Transport, if he was aware that the stevedore machinery at Immingham frequently broke down, causing loss of trade to the port and unemployment; and what plans he had for modernising the equipment and making greater use of this port.

Mr. Alfred Barnes: I understand that the only stevedoring machinery in the port of Immingham is that provided by the British Transport Commission. Any necessary modernisation and development of the port are matters for them.

NAPLES-ROME EXPRESS IN COLLISION.—A Naples-Rome express ran into the rear of another train at Sant' Antimo, north of Naples, on November 14. Ten passengers were killed and about 80 injured.

Interim Conditions of Carriage by Road

Standard conditions of carriage are to be introduced on January 1 by the Road Haulage Executive, to apply until such time as statutory conditions are introduced under the provisions of Part V of the Transport Act, 1947. The interim conditions will be known as the Road Haulage Executive Conditions of Carriage dated January 1, 1951.

This is being done because it is impracticable for the Executive to continue to contract under all the varying conditions of carriage at present used by the undertakings it has acquired. The new conditions in no way affect the rights of transport users as to any draft conditions that may be submitted to the Transport Tribunal under Section 76 of the Transport Act.

The Special Traffics (Pickfords) Division of the Executive will continue to contract under special conditions for the following classes of traffic: (a) household removals; (b) heavy haulage; (c) bulk liquids; and (d) meat. Units of the Executive which carry livestock will continue for the time being to contract under any special conditions that may be in force for this class of traffic.

To meet the requirements of those who desire cover over and above the financial limits of the conditions of carriage, special insurance arrangements have been introduced whereby any Division, District, or Group of the Executive can effect such cover.

BRITISH STANDARD FOR INDUSTRIAL PERFORATED PLATES.—The British Standards Institution has just published B.S. 1669, 1950, dealing with industrial perforated plates, which replaces that part of B.S. 481 on woven wire and perforated plate sieves and screens for industrial purposes, which was originally issued in 1933. The new standard has been designed to cover industrial perforated plate having round and square apertures, with the sizes and arrangements most commonly used, and tolerances on aperture size and pitch of apertures have been introduced. No attempt has been made to standardise other shapes of aperature such as slots. Copies may be obtained from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, price 2s.

SWISS EXPERIMENT WITH ANTI-SKIDDING DEVICE.—High-speed running calls for increased braking power if the signalling is not modified for longer braking distances. With intensified braking the danger of sliding becomes greater. Swiss manufacturers (Oerlikon, Bührle & Company) have developed an anti-skidding device which automatically reduces the braking pressure immediately for a short time if the wheels fail to turn. A four-axle trial vehicle weighing 29 tons tare has been equipped with a special braking device which automatically regulates the braking pressure as a function of speed and load. As soon as any one of the four axles is unduly retarded, a relay will interrupt the connection between the regulating valve and the brake cylinder, and release compressed air from the cylinder. The device has been tested successfully on 31 trips on the Sulgen-Amriswil line for speeds varying between 12 and 80 m.p.h. when skidding was deliberately provoked on more than hundred occasions. No harmful effect on the wheels could be observed.

The Last Ivatt Atlantic Withdrawn

Ceremony at Doncaster after the last journey of No. 62822, hauling a special train from London

On Sunday, November 26, the Eastern Region ran a special train conveying press representatives and railway enthusiasts from Kings Cross to Doncaster and hauled by locomotive No. 62822, the sole-surviving Ivatt Atlantic, on its final journey before being withdrawn for scrapping. The train, which was advertised as a special half-day excursion, was fully booked little more than a week after its running had been announced, and many would-be travellers had to be disappointed.

Mr. R. A. Riddles, Member, Railway Executive, Mr. C. K. Bird, Chief Regional Officer, Eastern Region, and Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region, and son of the famous

Mr. C. K. Bird presenting Mr. H. G. Ivatt with works plate from Atlantic locomotive No. 62822 at Doncaster

Locomotive Superintendent of the Great Northern Railway, H. A. Ivatt, travelled on the train, which left London at 11 a.m. and arrived on time at Doncester at 2.15 p.m. The enginemen were Driver J. C. B. Burgess, who has spent a lifetime on the East Coast route, and Fireman C. E. H. Fox. The locomotive bore a specially-designed headboard showing the first large-boiler Ivatt Atlantic, No. 251, built in 1902 and already withdrawn, which is to be preserved.

Presentation to Mr. Ivatt

On arrival at Doncaster, Mr. Bird presented one of the works plates from No. 62822 to Mr. H. G. Ivatt, as a memento of the occasion, at a simple ceremony at the Central Station in the presence of a large audience, which included representatives of the works staff. Mr. P. Melvill, representing the Railway Correspondence & Travel Society, presented the engine crew with two photographs of No. 62822, and a synopsis of its history.

In a special goodwill message handed to the driver of the special, addressed to Mr. J. E. Fisher, the Stationmaster at Doncaster, Mr. F. W. Goring, Stationmaster at Kings Cross, said of the Ivatt Atlantics: "They helped to make the East Coast route justly famous and no doubt that proud tradition will go on in yet further brilliant pages of our railway history." Mr. Fisher sent a return message which was carried by Driver Burgess on the special train.

Arrangements were made for parties to visit part of the works, where No. 62822, G.N.R. No. 251, and modern locomotives were on show. The return journey was made behind Class A1 Pacific, No. 60123, *H. A. Ivatt*, recently so named in honour of the noted designer.

The first Atlantic built by H. A. Ivatt, who went to the G.N.R. as Locomotive Superintendent in 1896, and the first of this type in the country, was G.N.R. No. 990, *Henry Oakley*; twenty-two were built between 1898 and 1903. In 1902, No. 251, the first of Ivatt's large-boiler Atlantics, appeared. The design was an immediate success, and ninety-three were built. Until the coming of the Gresley Pacifics they hauled the heaviest East Coast main-line expresses, establishing a great tradition of speed and reliability. Even when displaced from performing these duties regularly, they did equally well with lighter, smartly-timed trains. Only a few weeks ago, No. 62822 put up a fine performance when called on in emergency to haul the heavily-loaded 10.15 a.m. to Leeds.

British Railways Standard Passenger Coaches

1,189 *standard main line vehicles planned for construction during* 1951

The first British Railways standard passenger-coaches, which are now being built under the direction of Mr. R. A. Riddles, Member of the Railway Executive, will have all-steel bodies and will be capable of working over any of the main-line routes in the country. The coaches will be 63 ft. 6 in. long and will be carried on four-wheel bogies equipped with buck-eye automatic couplers and Pullman-type gangways. Both compartment and open coaches are to be built under the programme.

Compartment Coaches

The new first class compartment coach will include seven compartments, each with well-sprung seating for six people, three on each side and with armrests between. The upholstery will be of figured moquette with a blue base and the walls of decorative timber; there will be ample window space and good lighting.

Two first class compartments will be non-smoking. There will be a lavatory, lined with primrose plastic material and fitted with hot and cold running water, at each end of the coach; a feature will be the ample water supply. Access will be by means of doors at each end of the coach on both sides and there will be an additional door in the centre of the corridor side.

The new third class compartment coach will have eight compartments, two non-smoking; each compartment will seat six people. The additional compartment is included by placing both lavatories at one end of the coach. Armrests and fully-sprung seats will be provided and the upholstery will be of moquette with a maroon base. As in the first class, the woodwork will be of decorative timber. There will be three outside doors on each side of the new coaches, the centre door on the compartment side leading through a short passage into the corridor of the vehicle.

Composite coaches will have four first and three third class compartments with four doors on the corridor side and three on the compartment side.

First class open-coaches will have single seats on one side of the centre gangway and double seats on the other, accommodating 42 people in all; tables will be provided throughout. There will be lavatories at each end of the coach. The the third class open-coach will have double seats and tables each side of the gangway, seating 64 people. To save space both lavatories will be at one end of the coach.

Both first and third class restaurant cars will have movable chairs, the tables seating two on one side of the gangway and four on the other; 42 seats will be provided in the first class car and 48 in the third.

In addition to brake vans there will be composite vans of two types, one with four third class compartments, guard's compartment and parcels section, and one with three third and two first class compartments, guard's compartment and parcels section. The guard's compartment in these cars, and in the new brake vans, will have the new standard fittings, including bucket seat, and food-warmer, and the parcels section will be a self-contained lock-up separated from the corridor by a partition.

Kitchen Cars

The new kitchen cars will be the largest to go in service on British Railways. The 63 ft. 6 in. body will include a kitchen 20 ft. long, two 12 ft. pantries, a cold larder, attendant's compartment and attendant's lavatory. Cooking will be by anthracite for joints and similar foods and by electricity for grills toast and so on; there will be ample refrigerated accommodation. For journeys where fewer meals are required, kitchen cars with small first class dining portions will be built; in these vehicles the kitchens will be only 15 ft. 6 in. long, with a single 11 ft. 6 in. pantry.

During 1951 it is planned to construct 1,189 standard coaches for main line service, many of which will be used on the Festival of Britain trains. Of this number 826 will be built in railway workshops at Derby, Wolverton, Doncaster, York, Swindon and Eastleigh, and the remaining 363 by contractors; details of the latter are given in our Contracts & Tenders column.

The numbers of the different types of vehicles to be built are:—

60	First class corridor (compartment)
20	First class (open)
397	Third class corridor (compartment)
21	Third class (open)
285	Third class corridor brake vans (compartments and luggage space)
310	Composite corridor (first and third class compartments)
20	Composite corridor brake vans (compartments and luggage space)
11	First class restaurant cars
14	Third class restaurant cars
5	First class kitchen (dining portion and kitchen)
10	Kitchen cars
36	Brake vans

Construction of vehicles at British Railways workshops will be distributed as follows:—

Doncaster	55
Derby	325
Eastleigh	140
Swindon	60
Wolverton	130
York	116

Contracts and Tenders

The following contracts have recently been placed by the Railway Executive in connection with the 1951 Carriage Programme:—

Birmingham Railway Carriage & Wagon Co., Ltd.: 65 corridor third class carriages; 17 open first class carriages; 70 composite non-vestibule first and third class carriages.

Cravens Railway Carriage & Wagon Co., Ltd.: 15 corridor third class open carriages; 40 corridor composite carriages; 20 fruit vans.

Metropolitan Cammell Carriage & Wagon Co., Ltd.: 206 first and third class composite corridor coaches; 20 first and third class brake composite corridor coaches.

R. Y. Pickering & Co., Ltd.: 30 non-vestibule non-corridor composite brake carriages; 15 non-corridor third class brake carriages.

The Government of India has recently placed the following contracts:—

N. V. Machinenfabriek du Croo & Brauns, Amsterdam, Holland: 1,000 metre-gauge four-wheel covered goods wagons.

Baume & Marpent, S.A., Marpent, Nord, France (London Representatives: Brandhurst & Co., Ltd., Vintry House, Queen Street Place, E.C.4): 1,750 metre-gauge four-wheel open goods wagons; 250 narrow-gauge bogie covered goods wagons; 10 narrow-gauge bogie rail and timber wagons; 150 bogie petrol tank wagons.

La Brugeoise et Nicaise & Delcuve, S.A., Bruges, Belgium (London Representatives: Nye & Menzies, Limited, 62, New Broad Street, E.C.2): 2,000 metre gauge four-wheel covered goods wagons; 100 narrow-gauge bogie open wagons; 10 narrow-gauge bogie petrol tank wagons.

Simmering-Graz-Pauker, A.G., Vienna, Austria: 250 broad-gauge four-wheel petrol tank wagons.

Maschinenfabrik Augsburg Nürnberg, A.G., Nürnberg, Germany (London Representatives: C. Wykeham & Company, 17, Cockspur Street, London, S.W.1): 250 metre-gauge third class steel passenger coaches; 50 bogie hopper wagons; 1,000 metre-gauge four-wheel covered goods wagons; 50 narrow-gauge carriage underframes and bogies.

Etablissements Coder, St. Marcel, Marseilles, France: 1,000 metre-gauge four-wheel covered goods wagons.

Pyrites Co. Ltd has placed an order with Robert Stephenson & Hawthorns Limited for six 2-6-0 locomotives for Rio Tinto, Spain.

Notes and News

Vacancy for Assistant Departmental Works Manager.—An assistant departmental works manager, between 25 and 30 years of age, is required by an old-established steel works in Sheffield. See Official Notices on page 503.

Assistant Engineer Railway Signal Required.—An assistant engineer railway signal is required by the Crown Agents for the Colonies for the civil engineering department at its London Office. See Official Notices on page 503.

Senior Draughtsmen Required.—Senior draughtsmen, with experience in the design of overhead equipment for trolleybus and railway traction, are required by British Insulated Callender's Cables Limited, Prescot, Lancashire. See Official Notices on page 503.

London Midland Region Dramatic Society.—From November 16 to 18 the London Midland Region (London) Dramatic Society gave performances of the two-act play "The Paragon" at the Rudolph Steiner Theatre. This play, the most successful given by the society so far, was produced by Mr. Jack Pegg, Euston, who also ably played the principal part, that of the blind Sir Robert Rowley. Again the acting was of a high standard, with little trace of nervousness on the opening night, and the portrayal by Mr. Reginald Barker of "The Unknown Man" was exceptionally good.

Eastern Region First Aid Awards.—On November 17, at Liverpool Street Station, London, Mr. C. K. Bird, Chief Regional Officer, Eastern Region, British Railways, who was supported by Mr. W. P. Allen, Member of the Railway Executive, presented first aid awards of clocks and certificates to Mr. William Woodhall, Assistant Yard Master, Temple Mills, and Mr. H. Clark, Goods Guard, Worksop. Among those present were:—Mr. H. Adams Clarke, Chief Staff Officer, Railway Executive; and Messrs. H. H. Halliday, Regional Staff Officer, Eastern Region; E. W. Rostern, Operating Superintendent; M. B. Thomas, Public Relations & Publicity Officer; A. L. Crewe, Assistant to Chief Regional Officer; and C. Greenwood, Ambulance Centre Secretary.

Diesel Engine Users Association.—At a meeting of the Diesel Engine Users Association to be held at 2.30 p.m. on December 14, at Caxton Hall, Westminster, London, S.W.1, a paper will be presented entitled "Report on Heavy-Oil Engine Working Costs, 1948-49."

Institution of Locomotive Engineers.—Mr. S. B. Warder, Chief Officer (Electrical Engineering), Railway Executive, will read a paper on "Electric Traction Prospects for British Railways" at a meeting of the Institution of Locomotive Engineers to be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, on December 13, at 5.30 p.m.

Diesel Locomotive Productivity Report.—The report of the British diesel locomotive manufacturers' productivity team on its visit to the U.S.A. early this year, which was referred to in our April 28 and September 29 issues, will be presented at a luncheon to be held at the Dorchester Hotel, Park Lane, London, W.1, on December 13. The guest of honour will be Mr. G. R. Strauss, Minister of Supply.

Durham County Council: the Closed Shop.—The Engineers' Guild has communicated to the Durham County Council the text of its resolution regarding the "closed shop" policy recently adopted by the County Council. The Guild, it is stated, considers that to require, as a condition of employment, professional engineers to be members of a trade union or any other organisation, apart from those recognised as conferring a professional qualification, is an interference with professional and personal freedom, and contrary to the interests both of the engineering profession and of the

Group at Liverpool Street Station on November 17, on the occasion of a presentation of awards for meritorious first aid (see paragraph above)

Back row (left to right): Messrs. E. W. Rostern, W. P. Allen, M. B. Thomas, C. K. Bird, C. Greenwood, H. Adams Clarke and H. H. Halliday. *Front row*: Messrs. H. E. Clark and W. Woodhall

OFFICIAL NOTICES

SITUATION VACANT. ENGINEERING ASSISTANT, Permanent Way Department, Central Railway, Peru. Salary from £1,000 per annum. Knowledge of Spanish essential. Apply to Secretary, THE PERUVIAN CORPORATION, LIMITED, 144, Leadenhall Street, London, E.C.3.

SENIOR DRAUGHTSMEN required with experience in the design of overhead equipment for trolleybus and railway traction. Candidates should have served a recognised apprenticeship in engineering and received technical training to Higher National Certificate standard. Permanent position with superannuation after 12 months service. Salary according to qualifications and experience. Applications in writing, giving full details, to be forwarded to the Staff Officer, B.I.C.C. LIMITED, Prescot, Lancs.

DIRECTORY OF RAILWAY OFFICIALS & YEAR BOOK. A useful reference book for railway officers, engineering firms, and all who do business with railways. The only Directory which enables one to find the right railway and the right officer at the right moment. Issued July each year. Price 30s. net. Tothill Press Limited, 33, Tothill Street, London, S.W.1.

RAILWAY MAINTENANCE PROBLEMS. By H. A. Hull (late District Engineer, L.M.S.R.). Valuable information. With much sound advice upon the upkeep of permanent way. Cloth. 8¼ in. by 5¼ in. 82 pp. Diagrams. 5s. By post 5s. 5d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Crown Agents for the Colonies

ASSISTANT ENGINEER RAILWAY SIGNAL required by the Crown Agents for the Colonies for the Civil Engineering Department at their London Office. Salary scale £475-£25-£750. The £475 minimum is linked to entry age of 25 with addition of £25 for each year above that age up to £600 and subtraction of £25 for each year below 25. Extra duty allowance of 8 per cent. of annual salary is also payable at present. Engagement will be on unestablished terms with a prospect after satisfactory service, and as vacancies occur, of appointment to the established and pensionable staff and promotion to a higher grade. Candidates must have served in the Signal engineering department of a railway, or with a firm manufacturing signalling apparatus, and have a thorough knowledge in detail of signalling apparatus, both mechanical and electrical, and its application, also experience in preparation of schemes and interlocking. Some knowledge of permanent way will be required. Preference will be given to candidates who are Members of the Institution of Railway Signal Engineers and/or the Institution of Mechanical Engineers or the Institution of Electrical Engineers. Duties: Specifications for the purchase of signalling apparatus and railway track with all accessories, and preparation of contract drawings in connection therewith. Apply at once by letter, stating age, full names in block letters, and full particulars of qualifications and experience, and mentioning this paper, to the CROWN AGENTS FOR THE COLONIES, 4, Millbank, London, S.W.1, quoting M/28336B on both letter and envelope. The Crown Agents cannot undertake to acknowledge all applications and will communicate only with applicants selected for further consideration.

ASSISTANT DEPARTMENTAL WORKS MANAGER required by old-established Steel Works in Sheffield. Applicants should have good general engineering and rate-fixing experience. A knowledge of the manufacture of railway trackwork an advantage. Age preference 25 to 30. State fully qualifications and experience. Reply to Secretary, EDGAR ALLEN & CO. LTD., Imperial Steel Works, Sheffield 9.

INTERNATIONAL RAILWAY ASSOCIATIONS. Notes on the work of the various associations concerned with International traffic, principally on the European Continent. 2s. By post 2s. 2d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

RAILWAY SIGNALLING AND COMMUNICATIONS INSTALLATION AND MAINTENANCE. A practical guide, especially intended to help Signal Inspectors, Installers, Fitters, Linesmen, Draughtsmen, and all concerned with installing and maintaining Signal, Telegraph, and Telephone Equipment. 416 pp. Many illustrations. Cloth. 8s. By post 8s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Method. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages Medium 8vo. Full cloth. Price 20s. By post 20s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

public. Any attempt to impose such a condition of employment on members of the engineering profession will be resisted by the Guild.

Railway Benevolent Institution.—The Board of the Railway Benevolent Institution has granted annuities to seven widows and two members and a gratuity of £20 to a widow involving an additional liability of £196 9s. per annum. Gratuities were also granted amounting to £295 10s. to meet necessitous cases. Grants made from the Casualty Fund during October amounted to £440 12s.

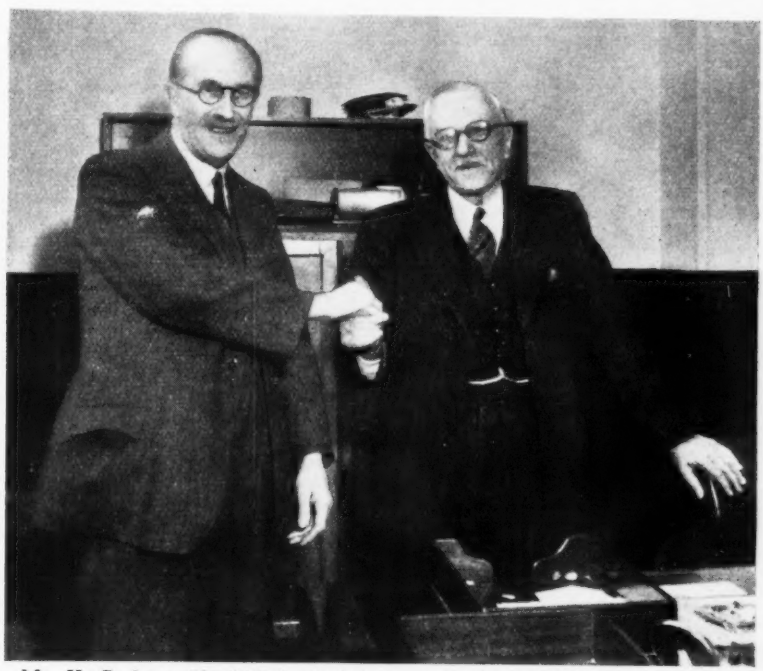
London Transport Race Meeting Services.—Special bus services are now being run by London Transport to race meetings at Sandown Park, Hurst Park, and Kempton Park. There are six return journeys starting from selected points in London suburbs. These services will continue at each meeting until July, 1951, and the excursions will run every race day, starting from Tottenham, Leyton, Barking, Lewisham, Clapham Common, and Shepherds Bush.

South Wales & Monmouthshire Debating Society.—The second meeting of the South Wales & Monmouthshire Railways & Docks Lecture & Debating Society 1950-51 session was held on November 7, when Mr. David Blee, Member, Railway Executive, read a paper on "Current Transport Problems." The Society, which was inaugurated last year, is affiliated to British Railways, Western Region, London Lecture & Debating Society, and is open to all grades of staff of the Railway Executive and Docks & Inland Waterways Executive. Mr. H. H. Swift, South Wales Area Officer, Western Region, has held the office of President during both sessions and Mr. A. E. Brown, Chief Docks Manager, South Wales Docks, Docks & Inland Waterways Executive, is Vice-President of the Society. Membership reached a total of 660 during the 1949-50 session. The next two meetings will be on: December 5, when Mr. T. F. Cameron, Chief Regional Officer, Scottish Region, will read a paper on "Freight Train Working"; and on January 2, when Mr. D. S. M. Barrie, Public Relations Officer, Railway Executive, will deliver a paper entitled "Historical Notes on the Railways of the Western Region in South Wales and Monmouthshire." Meetings are held in the Angel Hotel, Westgate Street, Cardiff, at 6.30 p.m.

Closing of Scottish Station.—British Railways, Scottish Region, have announced that, as from November 6, Thornielee Station between Clovenfords and Walkerburn on the Galashiels-Peebles line, has been closed. From that date, rail passengers for Thornielee have been booked to Clovenfords or Walkerburn, from which places a bus service is available. Parcels and miscellaneous traffic by passenger train and freight train for Thornielee are being dealt with at Walkerburn Station unless otherwise consigned.

Last Midland 2-4-0 Engine Withdrawn.—The Midland Railway 2-4-0 locomotive No. 20155, which was the oldest passenger tender engine on the London Midland

Retirement of Mr. Joseph Cox



Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region, shaking hands with Mr. Joseph Cox, Chief Carriage & Wagon Outdoor Assistant, London Midland Region, on the occasion of Mr. Cox's retirement

Region of British Railways, has been withdrawn and 2-4-0 tender engine is now extinct on that Region. The engine was one of a class of 30 built for express passenger work, by Mr. S. W. Johnson, and remained substantially unaltered throughout its life, except for the provision of a Belpaire boiler in recent years.

Institute of Public Administration.—Lord Hurcomb, Chairman, British Transport Commission, will be in the chair at a meeting of the Institute of Public Administration to be held on December 4, when Mr. F. A. A. Menzler, President, Institute of Actuaries, and Chief Development & Research Officer, London Transport Executive, will read a paper on "Lord Ashfield and the Public Corporation," in the series "Personality in Administration." The meeting will be held at Livingstone Hall, Broadway, S.W.1, at 6.15 p.m.

Forthcoming Meetings

December 1 (*Fri.*).—Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, at 5.30 p.m. "Manufacture of Experimental Gas Turbines," by Mr. L. H. L. Leedham, M.I.Mech.E.

December 1 (*Fri.*).—Railway Students' Association, London School of Economics & Political Science. Annual Dinner & Dance at the London Transport Executive Dining Club, South Kensington, at 6.15 p.m. for 6.45 p.m.

December 1 (*Fri.*).—Railway Club, 57, Fetter Lane, London, E.C.4, at 7 p.m. "The Burma Railways," by Mr. J. H. P. Hawtrey.

December 1 (*Fri.*). Scottish Society of Students of the Locomotive, in the Board Room, 302, Buchanan Street, Glasgow, at 7.30 p.m. "The Electric Locomotives of the Swiss Federal Railways," by Mr. F. A. Plant.

December 2 (*Sat.*).—Stephenson Locomotive Society. Annual Dinner at Charing Cross Hotel, London at 7 p.m.

December 2 (*Sat.*).—Electric Railway Society, at the Fred Tallant Hall, Drummond Street, London, N.W.1, at 3 p.m. Annual General Meeting.

December 4 (*Mon.*).—Society of Engineers, in the apartments of the Geological Society, Burlington House, London, W., at 5.30 p.m. "The Mechanical System of Handling Mails at the G.P.O., Sydney, N.S.W., Australia," by Mr. A. S. Lindsay (to be read by Mr. W. T. Gemmell).

December 4 (*Mon.*).—Institute of Transport, Metropolitan Section, at 80, Portland Place, London, W.1, at 5.30 for 6 p.m. "Palletisation in Transport," by Mr. A. C. B. Pickford.

December 5 (*Tue.*).—South Wales & Monmouthshire Railways & Docks Lecture & Debating Society, at the Angel Hotel, Westgate Street, Cardiff, at 6.30 p.m. "Freight Train Working," by Mr. T. F. Cameron, Chief Regional Officer, Scottish Region, British Railways.

December 6 (*Wed.*).—Institute of Traffic Administration, London Centre, at Caxton Hall, Westminster, S.W.1, at 7.15 p.m. "Mechanical Handling," by Mr. J. R. Sharp.

December 11 (*Mon.*).—Institute of Metals, Scottish Local Section, at the Institution of Engineers & Shipbuilders in Scotland, 39, Elmbank Crescent, Glasgow, C.2, at 6.30 p.m. "Non-Ferrous Metals in the Locomotive Industry," by Mr. J. D. Glen.

Railway Stock Market

Recent cheerfulness in stock markets, inspired by surprise dividend increases, has given way to a more cautious trend. This followed latest news from Korea and warning that rearmament must result in still higher taxation. British Funds turned easier, awaiting news whether a conversion operation is planned in respect of National War Bonds, 1951-53, but later became firmer on the view that the tax warning may mean that a big rearmament loan is improbable next year unless the cost of rearmament shows a substantial increase over estimates. Higher taxation, on the other hand, would provide a check to inflation, though if industry has to face heavy new burdens of this kind it would have serious effects and mean lower profits, besides increasing the need for additional money to finance business.

Owing to the difficulty of assessing the future, it would not be surprising if stocks of foreign railway companies attract more attention as time proceeds, particularly in cases where take-over agreements have been made and shareholders can expect to receive their pay-out money early next year. In nearly all instances current market prices are below pay-out estimates for the various stocks. Leopoldina stocks after their recent improvement, however, have come in for some profit-taking. The ordinary eased to 9¼, the preference to 24, the 4 per cent. debentures to 91, and 6½ per cent. debentures to 133½. Lepoldina Terminal debentures at 86 were also easier and the ordinary units 1s. 6d. Great Western of Brazil have been steady at 154s. and San Paulo 10s. units were 16s. 1¼d. Brazil Rail gold bonds further strengthened to 44. La Guaira ordinary changed hands around 80. Nitrate Rails showed firmness at 71s. 3d. and Taltal shares were 16s. There were further fluctuations in United of Havana stocks, but earlier declines were followed by a partial recovery in the 1906 debentures to 17. Bolivar "C" debentures were better at 44, but Manila "A" bonds eased to 70.

A feature has been strong buying of Canadian Pacifics which lifted the price to 42 at one time, later followed by a moderate reaction to 40¼. The rise has been partly a reflection of the general uptrend in Canadian securities which has been attributed to various reasons. Probably the underlying reason is wider recognition of the increasing prosperity of the Dominion which will receive a further impetus from rearmament work. The rise in Canadian Pacifics has been accompanied by renewed rumours of oil discoveries and by talk of the possibility of a higher return on the Consolidated Mining & Smelting holding. Canadian Pacific preference stock has also improved to 74½ and the debentures to 98½.

Recent results have tended to increase the belief that most road transport companies may be able to maintain their dividends despite lower profits arising from higher costs. In most instances the last dividend payments were conservative and there would have to be a very heavy fall in earnings to necessitate reduced dividends for 1950. Southdown have been firm at 118s. 9d., West Riding were 60s., Lancashire Transport 70s., and Potteries Traction changed hands at 42s. 3d. B.E.T. deferred stock continued active on dividend estimates, and, though best levels were not held, showed a good rise at £500.

Steel shares were mostly steady with little business reported. Brown Bayleys changed hands around 5¼ now the plan to segregate from nationalisation its non-steel assets has been approved. Hoffmann Manufacturing shares advanced to 95s.

Locomotive building and engineering shares were firm on the view that, partly owing to rearmament work, there seem good prospects of dividends being maintained. Vulcan Foundry were 24s. 6d., Gloucester Wagon 16s., North British Locomotive 19s. 9d., and Beyer Peacock 23s. 6d., while Wagon Repairs 5s. shares have changed hands around 16s., Hurst Nelson were 58s. 9d., Birmingham Wagons 31s. 6d., and Charles Roberts 96s. 3d.

SCOTTISH MOTOR TRACTION COMPANY.—The directors of the Scottish Motor Traction Company recommended a dividend of 12½ per cent., less tax, on the ordinary stock. A special dividend was paid on the stock in April from income arising from British Transport stock then held, which stock has since been distributed to ordinary stockholders.

Traffic Table of Overseas and Foreign Railways

	Railway	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1948/49	No. of weeks	Aggregate traffics to date: Total 1949/50	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta	811	19.11.50	87,740 –	16,630	46	3,075,124 –	16,930
	Costa Rica	281	Sept., 1950	c926,567 –	c49,730	13	c3,345,871 –	c436,566
	Dorada	70	Oct., 1950	37,409 +	5,561	43	391,233 +	94,355
	Inter. Ctl. Amer.	794	Sept., 1950	$1,000,438 –	$70,814	39	$10,227,283 +	$696,390
	La Guaira	22½	Sept., 1950	$68,726 –	$39,529	39	$725,535 –	$241,943
	Nitrate	382	15.8.50	10,816 –	8,656	32	286,336 +	6,203
	Paraguay Cent.	274	17.11.50	£202,103 +	£71,841	20	£3,894,527 +	£1,028,443
	Peru Corp.	1,050	Oct., 1950	$7,759,000 +	$1,731,632	18	$31,206,000 +	$10,689,542
	" (Bolivian Section)	66	Oct., 1950	Bs.12,465,000	Bs.1,408,106	18	Bs. 42 974,000 +	Bs.2,027,836
	Salvador	100	Aug., 1950	c88,000 –	c7,000	9	c193,000 –	c20,000
	Taltal	154	Oct., 1950	$1,321,604 –	$286,820	18	$5,800,260 +	$1,232,416
Canada	Canadian National	23,473	Oct., 1950	18,063,000 +	2,947,000	43	150,250,000 +	13,286,000
	Canadian Pacific†	17,037	Sept., 1950	12,237,000 +	1,453,000	39	90,971,000 +	1,733,000
Various	Barsi Light*	167	Sept., 1950	18,540 +	652	26	177,870 –	1,515
	Egyptian Delta	607	10.10.50	18,245 –	1,296	28	319,911 –	24,005
	Gold Coast	536	Sept., 1950	217,274 –	11,248	27	1,387,568 –	10,950
	Mid. of W. Australia	277	Sept., 1950	38,775 +	7,000	13	110,856 +	29,381
	Nigeria	1,900	Jan., 1950	502,360 +	38,978	44	5,017,814 +	266,573
	South Africa	13,347	28.10.50	1,699,828 +	220,483	30	49,849,293 +	5,064,808
	Victoria	4,744	Aug., 1950	1,886,505 +	666,194	9	—	—

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at $3 to £1